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L'exactitude de la cotation au Rorschach-SI

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Résumé

L'exactitude de la cotation est d'une importance cruciale au Rorschach – Système Intégré (SI) car elle garantit la validité de l'interprétation. Par contre, bien peu d'études ont rapporté le niveau d'exactitude de la cotation chez les utilisateurs du Rorschach-SI et les résultats de ces différentes études se révèlent plutôt contradictoires. Qui plus est, certaines études rapportent d'inquiétants bas niveaux d'exactitude chez les étudiants gradués, et même chez les cliniciens expérimentés au Rorschach-SI. Et, dans l'ensemble, très peu d'information est disponible dans la littérature sur les différents types d'erreurs de cotation et leur relative prévalence.

Une première étude a été menée afin de mesurer le niveau d'exactitude et d'identifier les types d'erreurs de cotation et leur relative prévalence dans un échantillon d'étudiants du baccalauréat (n=14) formés à la cotation des déterminants du Rorschach-SI avec le manuel de référence standard, c'est-à-dire le « *Workbook* ». Premièrement, les résultats montrent des taux d'exactitude bas, avec des scores variant de 20,5% à 67,0% (M = 39,8%) et de k 0,32 à k 0,81 au niveau des catégories de déterminants, et des scores de 22,9% et 47,9% au niveau du segment des déterminants. Ces bas taux d'exactitude étaient toutefois attendus, puisque l'échantillon ici était un peu moins avancé et un peu moins motivé que les échantillons usuels d'étudiants gradués ou de cliniciens expérimentés, et que les protocoles utilisés étaient d'un niveau de difficulté extrêmement élevé. Deuxièmement, les erreurs de cotation des étudiants ont été analysées et catégorisées, ce qui a permis d'extraire une liste de tous les types d'erreurs et de leur relative prévalence pour une sélection de cinq catégories de déterminants : Mouvement Humain, Mouvement Animal, Mouvement Inanimé, Couleur Chromatique, et Dimension Formelle. Certains types d'erreurs pourraient refléter des faiblesses dans le *Workbook*, et une révision critique de ce manuel est recommandée.

Dans une deuxième étude, une révision critique du *Workbook* a été faite pour identifier ses limites et faiblesses, et un nouveau manuel pour la cotation des déterminants au Rorschach-SI a été rédigé. L'effet de ce nouveau manuel sur le niveau d'exactitude de la cotation d'étudiants du baccalauréat formés à la cotation des déterminants au Rorschach-SI a ensuite été mesuré, comparativement au manuel standard, le *Workbook*. Les résultats ont montré que pour les catégories de déterminants apprises avec enseignement en classe, les niveaux d'exactitude varie entre k 0,52 et k 0,75, et aucune différence significative n'a été trouvée entre les deux groupes. Mais, pour les catégories de déterminants apprises sans enseignement en classe, les niveaux d'exactitude obtenus sont de k 0,33 et k 0,58, respectivement pour les étudiants utilisant le manuel standard et pour les étudiants utilisant le nouveau manuel, une différence qui s'est révélée significative. Les résultats dans la condition « Sans Enseignement » suggèrent que le nouveau manuel produit des niveaux d'exactitude significativement supérieurs, et l'absence de différences significatives dans la condition « Avec Enseignement » semble résulter de l'enseignement en classe, qui était homogène dans les deux groupes et reflétait le nouveau manuel dans son contenu et sa structure.

Mots-clés : Rorschach, Système Intégré (SI), exactitude, cotation, déterminants.

Abstract

Scoring accuracy is of pivotal importance in the Rorschach – Comprehensive System (CS), as it insures validity of interpretation. However, very few studies have reported on the level of scoring accuracy in Rorschach-CS users, and these studies offer contradictory findings. Moreover, some studies report troublingly low accuracy rates for graduate students, and even for experienced clinicians. And, overall, very little information is available in the literature on the various types of coding errors and their respective prevalence.

A first study was conducted to measure accuracy levels and identify types of coding errors and their prevalence in a sample of undergraduate students (n=14) trained in Rorschach-CS determinant coding with the standard reference manual for Rorschach-CS coding, namely the "Workbook". First, results show low accuracy levels, with scores ranging from 20,5% to 67,0% (M = 39,8%) and from k .32 to k .81 at the determinant category level, and scores of 22,9% and 47,9% at the determinant segment level. Such low rates were however expectable, as the sample here was somewhat less skilled and motivated than usual samples of graduates students or clinicians, and the protocols scored were of extremely high difficulty. Second, errors made by the students were analysed and categorized, which yielded a list of all types of errors and their prevalence for a selection of five determinant categories: Human Movement, Animal Movement, Inanimate Movement, Chromatic Color, and Form Dimension. Some of the types of errors found could reflect weaknesses in the Workbook, and a critical review of the Workbook is recommended.

In a second study, a critical review of the Workbook was conducted to identify its limitations, and a new manual for Rorschach-CS determinant scoring was drafted. The effect of this new manual on the scoring accuracy level of undergraduate students trained in Rorschach-CS

determinant scoring was then measured, comparatively to the standard Workbook. Results showed that for determinant categories learned with in-class teaching, accuracy rates ranged from k .52 to k .75, and no significant difference was found between students using the standard manual and students using the new manual. But, for determinant categories learned without in-class teaching, accuracy rates were k .33 and k .58, respectively for students using the standard manual and students using the new manual, a difference that was found to be significant. Results in the "No Teaching" condition suggest the new manual produces significantly greater accuracy levels, and the absence of significant differences in the "With Teaching" condition is thought to result from the in-class teaching, which was homogenous in both groups and mirrored the new manual in content and structure.

Keywords : Rorschach, Comprehensive System (CS), accuracy, scoring, coding, determinants.

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CS : Comprehensive System

SI : Système Intégré

QRG : Questionnaire de Renseignements Généraux

GIQ : General Information Questionnaire

EQ : Evaluation Questionnaire

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Julie Doyon

CHAPITRE 1 - INTRODUCTION

Introduction

En guise d'introduction, un survol historique du développement du « test de Rorschach » sera d'abord présenté, suivi d'une brève description de la méthode plus spécifique du Système Intégré (SI) pour le Rorschach et de ses qualités psychométriques. Ensuite, la notion centrale d'exactitude de la cotation au Rorschach-SI sera discutée en détail, suivi d'une présentation des principales sources d'information pour la cotation au Rorschach-SI. En terminant, les grandes lignes directrices du présent projet de recherche sur la cotation du Rorschach-SI seront explicitées.

1. Un survol historique du développement du Rorschach

Le test aujourd'hui communément appelé « le Rorschach » a vu le jour en 1921, par la publication d'un ouvrage intitulé *Le Psychodiagnostic*, où le médecin Hermann Rorschach présentait sa « méthode des taches d'encre », un nouveau « test » qu'il avait développé pour l'étude des processus perceptuels chez les schizophrènes. Malheureusement, il décédait subitement l'année suivante, et ne pût poursuivre ses travaux. Cependant, plusieurs après lui ont repris ce « test des taches d'encre », depuis communément appelé le « test de Rorschach » en l'honneur de son créateur. Dans les décennies qui ont suivies, de nombreuses méthodes d'utilisation pour ce « test des taches d'encre » se sont développées, certaines davantage teintées d'une libre interprétation psychanalytique du matériel, d'autres davantage cadrées par une cotation plus systématique. Parmi ces multiples méthodes, cinq sont éventuellement devenues des « grands systèmes » plus connus, soit les systèmes de Beck, Klopfer, Piotrowski, Rapaport, et Schafer (Exner, 2003b).

C'est alors qu'est fondée en 1968 la *Rorschach Research Foundation* (ensuite connue sous le nom de *Rorschach Workshops*, puis aujourd'hui sous le nom de *Rorschach Training Programs*), dirigée par John E. Exner, qui procéda à un important travail de révision concernant le Rorschach. D'abord, ce groupe effectua une analyse comparée des cinq « grands systèmes », suivie de trois enquêtes sur l'utilisation du Rorschach par les cliniciens, et d'une grande revue de littérature de tous les travaux de recherche publiés sur le Rorschach, soit plus de 4000 écrits. Les résultats révélèrent des préoccupations majeures sur l'utilisation du test : les cinq méthodes diffèrent grandement entre elles, les cliniciens les utilisent peu fidèlement, et la littérature est confuse et criblée de problèmes méthodologiques (Exner, 2003b). La *Rorschach Research Foundation* se lança donc alors dans le projet de développer un nouveau système pour le Rorschach, qui intègrerait notamment les éléments empiriquement soutenus des systèmes précédents. Le Système Intégré (SI) (*Comprehensive System – CS*) a donc vu le jour en 1974 avec la publication de *The Rorschach : A Comprehensive System* (Exner, 1974).

Plusieurs sondages sur l'utilisation de tests psychologiques dans les 40 dernières années ont montré une utilisation substantielle et durable du Rorschach autant en recherche qu'en clinique (Butcher & Rouse, 1996; Camara, Nathan & Puente, 2000; Hilsenroth, Charnas & Zodan, 2007), et certains sondages le place au 4ème rang des tests psychologiques les plus utilisés (Hogan, 2005; Sahly, Shaffer, Erdberg & O'Toole, 2011). Et aujourd'hui, c'est le Système Intégré (SI) développé par le groupe de John E. Exner qui est devenu le système pour le Rorschach le plus largement accepté, utilisé, enseigné et étudié (Mihura & Weinle, 2002; Viglione & Meyer, 2008; Guarnaccia, Sabatino & Southwick, 2001; Hilsenroth & Handler, 1995; Shontz & Green, 1992), autant aux États-Unis qu'autour du monde (Shaffer, Erdberg &

Meyer, 2007; Sahly et al., 2011), notamment en Argentine, Belgique, Danemark, Espagne, France, Hollande, Japon, Israël, Italie, Pérou, Portugal et Suède (Viglione & Meyer, 2008).

2. Une brève description du Rorschach-SI

Le Rorschach-SI est un test d'évaluation psychologique faisant partie de la grande classe des tests de personnalité, c'est-à-dire un test qui permet de dresser un portrait de l'ensemble du fonctionnement psychologique d'un individu. Exner (2003b) détaille la passation de ce test comme suit. Dix taches d'encre formant des stimuli ambigus sont présentées une à une à un sujet. Devant chaque tache, le sujet effectue une tâche perceptuo-cognitive, c'est-à-dire qu'il doit traiter l'information, sélectionner une (ou plusieurs) réponse(s), la(les) verbaliser, et décrire divers aspects du processus l'ayant mené à cette(ces) réponse(s).

Les différentes réponses obtenues sont ensuite traduites en une série de cotes. Au Rorschach-SI, cette étape de cotation est très complexe. De nombreux aspects de la réponse doivent être évalués afin de déterminer les cotes applicables parmi un choix de plus de 80, organisées en neuf dimensions (aussi appelées « segments »), soit (1) Localisation, (2) Qualité développementale (communément abrévié « DQ », acronyme de la terminologie anglaise « *Developmental Quality* »), (3) Déterminants, (4) Qualité formelle (communément abrévié « FQ », acronyme de la terminologie anglaise « *Formal Quality* »), (5) Paire, (6) Contenus, (7) Populaire, (8) Scores Z et (9) Scores spéciaux (Exner, 2003b).

Les fréquences respectives des diverses cotes dans l'ensemble du protocole sont alors comptabilisées, et ces fréquences entrent ensuite dans divers calculs permettant d'obtenir les scores du sujet à de nombreuses variables appelées « variables structurales ». Ce sont ces

scores du sujet aux diverses variables structurales qui ultimement sont comparés aux scores d'un échantillon normatif, permettant ainsi d'interpréter les résultats du sujet (Exner, 2003b).

Au Rorschach-SI, les résultats aux diverses variables structurales sont regroupées en sept agrégats, reflétant les diverses grandes sphères du fonctionnement psychologique : (1) Contrôles, (2) Affects, (3) Perception interpersonnelle, (4) Perception de soi, (5) Traitement de l'information, (6) Médiation, (7) Idéation. Un huitième agrégat, Stress situationnel, peut aussi être pertinent si les scores du sujet le justifient (Exner, 2003b).

Ainsi, l'utilisation du Rorschach-CS permet d'obtenir un portrait riche et complexe de toutes les grandes sphères du fonctionnement psychologique d'un individu, à l'instar de plusieurs autres grands tests de personnalité. Mais le Rorschach-CS possède certaines forces qui le distinguent des autres tests de personnalité. Parmi les plus notables, il convient de mentionner son abord des niveaux conscient et préconscient-inconscient et sa résistance inégalée à la simulation.

3. Les qualités psychométriques du Rorschach-SI

Bien que des débats aient eu lieu sur certains aspects de la fidélité et de la validité du Rorschach-SI, ses qualités psychométriques sont aujourd'hui bien établies dans la littérature. En effet, tel que bien résumé dans le *Handbook of Forensic Rorschach* Assessment (Gacano & Barton, 2008), de nombreuses études, incluant des méta-analyses, démontrent notamment sa validité de construit (Exner & Erdberg, 2005; Meyer, 2004; Meyer & Archer, 2001; Viglione, 1999), sa fidélité temporelle (Gronnerod, 2003; Meyer & Archer, 2001; Viglione & Hilsenroth, 2001), sa fidélité inter-juges (Meyer, Mihura & Smith, 2005; Erdberg, 2005; Meyer, 1997a, 1997b; Meyer, Hilsenroth, Baxter, Exner, Fowler, Piers et al., 2002; Viglione &

Hilsenroth, 2001; Viglione, 1999), sa validité incrémentielle (Viglione, 1999; Viglione & Hilsenroth, 2001; Weiner, 2001; Hiller, Rosenthal, Bornstein, Berry & Brunell-Neuleib, 1999; Meyer, 2000; Meyer & Archer, 2001; Hartmann, Sunde, Kristensen & Matinussen, 2003; Janson & Stattin, 2003; Stokes, Pogge, Powell-Lunder, Ward, Bilginer & DeLuca, 2003; Sultan, Andronikof, Réveillère & Lemmel, 2006; Fowler, Hilsenroth & Piers, 2001), ainsi que sa validité écologique et prédictive (Elfhag, Barkeling, Carlsson, Lindgren & Rossner, 2004; Bihlar & Carlsson, 2001; Nygren, 2004a, 2004b).

Il importe toutefois de souligner que très peu d'études sur le Rorschach-SI ont spécifiquement mesuré le niveau d'exactitude de la cotation de ses utilisateurs, un constat préoccupant vu l'importance de l'exactitude de la cotation au Rorschach-SI.

4. L'exactitude de la cotation au Rorschach-SI

4.1 L'importance de l'exactitude de la cotation au Rorschach-SI

Dans l'utilisation du Rorschach-SI, l'exactitude de la cotation revêt une importance cruciale puisqu'elle est garante de la justesse de l'interprétation. En effet, dans le Rorschach-SI, les fréquences d'attribution des diverses cotes dans le protocole d'un sujet entrent ensuite, soit directement, soit suite à des calculs, dans plus de 60 différents scores et index, appelés variables structurales. L'interprétation procède alors par comparaison des résultats du sujet à ces variables structurales avec ceux d'un échantillon normatif. Or, de nombreuses cotes ont une très basse fréquence dans l'échantillon normatif et sont donc particulièrement sensibles à la sur- ou sous-cotation. Par exemple, dans l'échantillon normatif original du Rorschach-SI (Exner, 1974), plusieurs cotes ont une moyenne de fréquence par protocole inférieure à 2, donc soit de 0 ou 1. Ainsi, l'attribution erronée de ces cotes seulement quelque fois, voire

même une seule fois, dans un protocole peut significativement altérer les résultats aux variables structurales et entrainer d'importantes variations dans l'interprétation basée sur les données normatives. La justesse de l'interprétation au Rorschach-SI dépend donc largement de l'exactitude de la cotation.

4.2 La notion d'exactitude

La notion même d'exactitude de la cotation demande ici à être précisée. Compte tenu de la dépendance étroite entre l'interprétation et les données normatives, il apparait que la notion d'exactitude de la cotation est à évaluer en regard de *la cotation telle qu'appliquée dans l'échantillon normatif utilisé pour l'interprétation*. Or, bien que certains débats aient eu cours concernant les données normatives recommandées et que les données de différents échantillons normatifs soient disponibles dans la littérature (Shaffer, Erdberg & Haroian, 1999; Wood, Nezworski, Garb & Lilienfield, 2001; Viglione & Hilsenroth, 2001), les données normatives fournies par *Rorschach Workshops / Rorschach Training Programs* (Exner & Erdberg, 2005; Exner, 2007) restent les plus utilisées (notamment par la plupart des logiciels d'interprétation pour le Rorschach-SI).

De plus, les sources de référence habituellement utilisées pour la cotation du Rorschach-SI, soit *A Rorschach Workbook for the Comprehensive System* (Exner, 2001), communément appelé le « *Workbook* », et *The Rorschach : A Comprehensive System* (Exner, 1974), communément appelés les « *TRACS* », sont aussi produites par *Rorschach Workshops / Rorschach Training Programs*, et les conventions de cotation telles qu'appliquées dans les données normatives produites par le même groupe peuvent donc être présumées cohérentes avec celles explicitées dans ces ouvrages.

4.3 La complexité de la cotation au Rorschach-SI

Si l'exactitude de la cotation au Rorschach-SI est cruciale, l'application de la cotation est aussi une tâche complexe, souvent qualifiée de « laborieuse » (*labor-intensive*) dans la littérature. En effet, le nombre total de cotes différentes existant dans le Rorschach-SI est très élevé (plus de 80), permettant d'évaluer neuf dimensions différentes des réponses du sujet (Localisation, DQ – Qualité développementale, Déterminants, FQ – Qualité formelle, Paire, Contenus, Populaire, Scores Z, Scores spéciaux). Une réponse simple implique un minimum de cinq cotes (ex : Do Fo A) alors qu'une réponse complexe peut compter plus d'une vingtaine de cotes (ex : WS+ Mp.FMa.FY.CF.FDu (2) H,A,Na,Cg,Ay P Z(5.0) INC2,AG,MOR,DR). De plus, les neuf dimensions (aussi appelées « segments ») distinctes ont chacune leurs propres fondements conceptuels et nuances d'application. Le nombre de cas de figure qu'il est possible de rencontrer pour l'application de la cotation est donc potentiellement infini, et certains segments ou cotes sont d'autant plus réputés comme présentant un degré particulièrement élevé de difficulté. Plus précisément, Exner (1993) et Weiner (1998) identifient les segments Déterminants, FQ, Contenus et Scores spéciaux comme plus difficiles à coter, car ils impliquent davantage de jugement de la part de l'examinateur et d'extrapolations à partir de l'information disponible dans les manuels.

5. Les données empiriques sur l'exactitude de la cotation au Rorschach-SI

Une recension des écrits révèle de nombreuses études rapportant la qualité de la cotation au Rorschach-SI (par exemple, une étude massive de Meyer, Hilsenroth, Baxter, Exner, Fowler, Piers et Resnick (2002), qui rapporte sur les taux d'accord inter-juges dans huit échantillons de protocoles). Et, globalement, ces études rapportent la qualité de la cotation au Rorschach-SI

comme étant très bonne ou excellente (Meyer, 1997a, 1997b; Janson, 1998; Acklin, McDowell, Verschell & Chan, 2000; Meyer et al., 2002; Viglione & Taylor, 2003; Meyer, 2004; McGrath, Pogge, Stokes, Cragnolino, Zaccario, Hayman et al., 2005). Cependant, il convient de souligner que la plupart de ces études rapportent la qualité de la cotation en termes d'accords inter-juges au niveau du sommaire structural, une mesure qui est davantage « permissive » en termes d'erreurs de cotation qu'une mesure en termes d'exactitude de la cotation au niveau des réponses (cotes individuelles). Par exemple, dans l'accord inter-juges, deux coteurs peuvent être d'accord sur une cote même si celle-ci est en soi erronée. Ou encore, deux coteurs peuvent avoir attribué une cote particulière le même nombre de fois dans un protocole, mais pas aux mêmes réponses, et ces différences ne seraient pas capturées au niveau du sommaire structural.

Concernant spécifiquement l'exactitude de la cotation au niveau des réponses, très peu d'études ont pu être relevées dans la littérature, plus spécifiquement une « lettre aux anciens participants » (*Alumni Newsletter*) de *Rorschach Workshops* (Exner, 1988), et deux études, une de Guarnaccia et al. (2001) et l'autre de Hilsenroth et al. (2007).

5.1 Trois études empiriques

Étude 1. Une « lettre aux anciens participants » (*Alumni Newsletter*) des formations données par *Rorschach Workshops* (Exner, 1988) présente les taux d'erreurs dans la cotation de quatre segments de cotes (DQ, Déterminants, Scores Z et Scores spéciaux) d'approximativement 225 sujets. Le nombre exact de sujets n'est pas précisé dans la lettre, le nombre indiqué est ici un estimé basé sur les indications suivantes : un de deux protocoles a été envoyé à plus de 300 anciens participants à trois types de formations données par *Rorschach Workshops* : formation

de base, formation avancée, et autres formations; et les taux de retour ont varié entre 65% et 80%. La cotation-critère est bien sûr celle de *Rorschach Workshops*. Les taux d'erreurs sont rapportés pour chacun des trois groupes d'anciens participants soit ceux provenant d'une formation de base, ceux provenant d'une formation avancée, et ceux provenant d'autres formations. Les moyennes des taux d'erreur pour les trois groupes sont, en ordre décroissant : 28,7% pour les Scores spéciaux (soit respectivement 23%, 27% et 36% pour chacun des trois groupes), 17% pour les DQ (soit respectivement 17%, 16% et 18% pour chacun des trois groupes), 15,3% pour les Déterminants (soit respectivement 14%, 17% et 15% pour chacun des trois groupes) et 9,3% pour les Scores Z (soit respectivement 23%, 27% et 36% pour chacun des trois groupes). Il est à noter toutefois que pour les Déterminants, seules les erreurs « majeures » ont été considérées, c'est-à-dire que les erreurs de niveaux de forme (ex : FC plutôt que CF) n'ont pas été tabulées. Exner (1988) considérait ces résultats inquiétants, expliquant que des taux d'erreur de cette magnitude peuvent mener à des conclusions interprétatives faussées ou totalement incorrectes.

*Étude 2***.** Guarnaccia et al. (2001) se sont principalement intéressés à l'effet de l'expérience sur l'exactitude de la cotation au Rorschach-SI, proposant que l'exactitude pourrait être favorisée par l'utilisation plus fréquente du Rorschach-SI mais pourrait aussi être défavorisée par le développement d'une attitude plus laxiste dans la rigueur de la cotation avec le passage du temps depuis la formation au Rorschach-SI. En accord avec le taux d'accord inter-juges de 80% demandé pour publication dans le *Journal of Personality Assessement* (Weiner, 1991), Guarnaccia et al. (2001) faisaient l'hypothèse que les taux d'exactitude rencontreraient ou surpasseraient 80% pour tous les segments de cotes.

Vingt réponses cotées provenant de sources d'autorité, précisément de *The Rorschach : A Comprehensive System; Volume 1 : Basic Foundations and Principles of Interpretation* (Exner, 1986) et de *Principles of Rorschach Interpretation* (Weiner, 1998), ont été sélectionnées. Ces réponses ont été soumises à deux groupes de coteurs, soit un groupe de 21 étudiants gradués en psychologie ayant reçu environ 25h de formation sur la cotation Rorschach-SI et un groupe de 12 psychologues attestant utiliser le Rorschach-SI au moins une fois par mois dans leur pratique. Les cotations des ces deux groupes de participants ont été comparées à la cotation-critère et un système de points a alors été utilisé. Ensuite, les taux d'exactitude ont été calculés en divisant la moyenne de points obtenus pour un segment de cotes par le pointage correspondant à l'exactitude parfaite, ce chiffre étant ensuite reporté en pourcentage. Des tests-t ont été effectués entre les deux groupes de coteurs afin d'identifier la présence et l'ordre d'une différence significative ($\alpha < .05$) entre ces deux groupes.

Les taux d'exactitude obtenus varient entre 36,87% et 97,50%, avec des taux d'exactitude moyens inférieurs à 80% pour six des neuf segments de cotes (Contenus, DQ, Scores Z, Déterminants, FQ et Scores spéciaux). Les taux d'exactitude totale des étudiants et des professionnels sont très similaires, une différence significative n'ayant été détectée qu'à cinq occasions, et ce pour quatre des neuf segments de cotes (DQ, FQ, Contenus et Scores spéciaux). Toutefois, ce ne sont pas toujours les étudiants qui obtiennent la plus faible exactitude, le meilleur taux d'exactitude revenant aux professionnels à trois des cinq occasions et aux étudiants à deux des cinq occasions.

Guarnaccia et al. (2001) concluent à l'existence d'un problème majeur qui requiert une attention immédiate et suggèrent un processus de certification pour l'utilisation clinique du

Rorschach-SI ainsi qu'une révision des sources de référence pour inclure davantage d'information de cotation.

*Étude 3***.** Hilsenroth et al. (2007) se sont principalement intéressés à l'effet d'un programme de formation structuré sur le niveau d'exactitude des étudiants y participant. Un groupe de 29 étudiants au doctorat en psychologie ont suivi un programme de 27 heures sur la cotation au Rorschach-SI, un programme développé par Hilsenroth. Les étudiants étaient informés dès le début de la formation que la réussite du cours nécessitait l'obtention d'une exactitude de 80% sur deux protocoles, appelés « intra » et « final », provenant de sources-critères. L'exactitude a ensuite été calculée en %A et en kappa. Les %A ont ici été calculés pour chaque segment de cotes, en divisant le nombre d'accord exact pour une catégorie de cotes par le nombre total de réponses. Et les kappas ont été calculés en accord avec la procédure détaillée par Meyer (1999).

Les taux d'exactitude en %A varient entre 65,00% et 99,00%, avec seulement les Scores spéciaux obtenant un taux inférieur à 80%. Les taux d'exactitude en kappa varient entre .56 et .98, avec sept des neuf segments obtenant une mention « excellent », et les segments Scores Z et Scores spéciaux obtenant une mention « bon ».

Hilsenroth et al. (2007) proposent que la différence importante entre leurs résultats et ceux de Guarnaccia et al. (2001) serait due notamment (1) aux différences dans le type de formation offerte aux deux groupes d'étudiants, et (2) aux différences dans les méthodes de calcul des taux d'exactitude.

Ce survol des études empiriques sur l'exactitude de la cotation au Rorschach-SI révèle donc des données rares et contradictoires où la plupart des segments de cotes se trouvent associés à

des taux d'exactitude insatisfaisants, des éléments qui soulignent la nécessité d'études supplémentaires sur le sujet.

5.2 Les types d'erreurs de cotation

Un autre point à noter est que, bien que les études sur l'exactitude précisent les segments de cote obtenant les plus faibles taux d'exactitude, ces études donnent rarement des précisions sur les types spécifiques d'erreurs de cotation et les raisonnements qui mènent à ces erreurs. Une exception ici est la « lettre aux anciens participants » de Exner (1988), où plusieurs types d'erreurs spécifiques sont présentés et accompagnés de commentaires révisant les notions impliquées.

Premièrement, la distribution des erreurs d'omission (ne pas entrer une cote requise) et des erreurs de commission (entrer une cote non-requise) est rapportée pour trois segments de cotes : Déterminants, Scores Z et Scores spéciaux. Les erreurs d'omission sont plus fréquentes pour les Déterminants et les Scores Z, alors que les erreurs de commission sont plus fréquentes pour les Scores spéciaux.

Deuxièmement, certains patrons d'erreurs sont présentés pour quatre segments de cotes, soit les trois ci-haut mentionnés ainsi que la Qualité développementale. Les principaux types d'erreurs rapportés sont :

- Qualité développementale (DQ) :
    - Coter + pour des objets individuels
    - Coter v pour des objets qui ont une demande formelle

- Déterminants :
    - Omettre un déterminant, en particulier du Mouvement
    - Coter du Mouvement sans qualificatif a ou p
    - Coter du Mouvement pour des descriptions de position sans état de tension non-naturelle
    - Coter Couleur achromatique et Estompage alors que seulement Estompage est requis
    - Entrer deux cotes de Couleur chromatique dans une même réponse
- Scores Z :
    - Coter un Score Z pour des réponses Do
    - Omettre un Score Z pour des réponses Wo ou DQ+
- Scores spéciaux :
    - Omettre MOR, AG, PER
    - Coter DR ou ALOG alors que non-requis

Exner (1988) mentionne aussi que les erreurs sur les Déterminants et les Scores spéciaux apparaissent traduire un manque de compréhension des cotes impliquées et de leurs critères d'application.

Ce type d'information sur les types d'erreurs spécifiques effectuées par les utilisateurs du Rorschach-SI est une ressource précieuse, car cela permet d'identifier les notions de cotation les plus problématiques pour les utilisateurs, et met possiblement en lumière des lacunes à combler dans l'information de cotation offerte dans les ressources usuelles. Davantage d'information sur les types spécifiques d'erreurs de cotation chez les utilisateurs du Rorschach-SI serait donc d'une grande utilité pour identifier les problématiques de cotation

qui requerraient d'être traitées plus en profondeur dans les manuels de référence pour assurer une meilleure exactitude de cotation.

5.3 Les méthodes de calcul de l'exactitude

Comme le résume Meyer (1999), le taux d'exactitude de la cotation (et la fidélité inter-juges) au Rorschach-SI peut être calculé en utilisant différentes statistiques : pourcentage d'accord sur la présence et l'absence d'une ou plusieurs cotes, pourcentage d'accord sur la présence seulement d'une ou plusieurs cotes, mesures d'association telles que la corrélation Pearson, mesures d'accord corrigées pour la chance telles que le kappa et la corrélation intra-classe, mesures de déviation. Et le taux d'exactitude peut aussi être calculé à différents niveaux d'analyses : cotes spécifiques, catégories de cotes, segments de cotes, scores structuraux. Les « segments de cotes » correspondent aux neuf grandes dimensions de cotation au SI, soit Localisation, DQ, Déterminants, FQ, Paire, Contenus, Populaire, Scores Z et Scores spéciaux. Les « catégories de cotes » correspondent à des sous-divisions qui peuvent être faites pour certains de ces segments de cotes. Par exemple, le segment Déterminants peut être décomposé en 11 catégories comprenant chacune certaines cotes spécifiques, c'est-à-dire Mouvement humain (Ma, Mp, Map), Mouvement animal (FMa, FMp, FMap), Mouvement inanimé (ma, mp, map), Couleur chromatique (C, CF, FC, Cn), Couleur achromatique (C', C'F, FC'), Estompage-Texture (T, TF, FT), Estompage-Vista (V, VF, FV), Estompage-Diffus (Y, YF, FY), Dimension formelle (FD), Réflexion (rF, Fr), et Forme (F).

Dans les études sur l'exactitude de la cotation au Rorschach-SI, le niveau d'analyse est habituellement celui des « segments de cotes » et les taux d'exactitude sont habituellement calculés en pourcentages d'accord et en kappas. La principale difficulté dans le calcul des

kappas à ce niveau d'analyse est que le calcul de l'« accord par chance » peut relever de formules mathématiques complexes lorsque de nombreuses options de scores sont impliquées. Par exemple, il existe 40 options de scores valides (et 11 non-valides) pour l'ensemble des 11 déterminants, certains scores étant mutuellement exclusifs alors que d'autres peuvent se combiner. Meyer (1999) propose donc une méthode simplifiée pour calculer les taux d'« accords par chance » qui entrent dans les calculs de kappas.

Pour le calcul des pourcentages d'accord à ce niveau d'analyse, Meyer (1999) propose de juger l'accord pour chaque réponse sur la base de la cotation complète du segment d'intérêt (s'il y a plusieurs cotes dans un segment pour une même réponse, l'accord doit être sur la séquence entière de cotes). Par exemple, si la cotation-critère pour une réponse est Wv ma.YFo Fi,Id MOR,DR1, et qu'un coteur donne pour cette réponse la cotation Wv ma.Yu Fi MOR,DR2, ce coteur obtient un « accord » pour les segments Localisation (W = W), DQ (v = v), Paire (absence = absence), et Scores Z (absence = absence), et il obtient un « désaccord » pour les segments Déterminants (ma.YF ≠ ma.Y), FQ (o ≠ u), Contenus (Fi,Id ≠ Fi) et Scores spéciaux (MOR,DR1 ≠ MOR,DR2). Ce type de détermination est faite pour toutes les réponses d'un même coteur. Puis, pour chaque segment, le nombre d'« accords » obtenu par un coteur est divisé par le nombre total de réponses, ce qui donne le pourcentage d'accord pour ce coteur.

Si les résultats sur les taux d'exactitude au Rorschach-SI sont parfois contradictoires, cela pourrait être dû, au moins en partie, aux différentes méthodes utilisées pour leur calcul. Par exemple, seul Hilsenroth et al. (2007) présentent les taux d'exactitude en kappas, en plus des pourcentages d'accord. Exner (1988) et Guranaccia et al. (2001) ne présentent leurs résultats

qu'en pourcentages d'accord. Et même si les trois études présentent des taux d'exactitude en pourcentages d'accord, les méthodes utilisées diffèrent significativement.

En effet, dans Hilsenroth et al. (2007), en accord avec Meyer (1999), l'accord est jugé sur la séquence entière de cotes requises dans un segment pour chaque réponse. Par exemple, pour le segment Déterminants, si la cotation-critère de la réponse 1 est : Ma.FC.FT, le coteur est jugé en accord avec la cotation-critère s'il a lui aussi entré précisément ces trois cotes pour cette réponse. Si une seule des cotes manque ou si une autre cote a été ajoutée, le coteur est jugé en désaccord pour cette réponse. Comme le coteur obtient un « accord » ou un « désaccord » pour chaque réponse, le taux d'exactitude correspond alors au nombre de réponses pour lequel il a obtenu un « accord » divisé par le nombre total de réponse dans le protocole.

Par contre, dans Guarnaccia et al. (2001), la méthode de calcul pour les pourcentages d'accord est inhabituelle, voire curieuse, et est basée sur un système de « points ». Pour chaque segment de cote, un « score parfait » est établi, qui correspond en fait au nombre de cotes individuelles entrées par le critère pour ce segment. Par exemple, pour le segment Déterminants, si il y 20 réponses dans un protocole, le critère peut avoir mis deux déterminants à cinq des réponses et un seul déterminant aux 15 autres, pour un total de 25 cotes individuelles entrées pour ce segment dans l'ensemble du protocole. L'accord du coteur est ensuite jugé ici cote par cote (et non réponse par réponse, comme dans Hilsenroth et al., 2007). Par exemple, pour le segment Déterminants, si la cotation-critère pour la réponse 1 est Ma.FC.FT, le coteur qui a mis Ma.FC obtient deux « accords » pour Ma et FC, même s'il obtient un « désaccord » pour FT (alors que dans la méthode de Hilsenroth et al. (2007), le coteur obtiendrait un « désaccord » pour la réponse au complet).

Dans Exner (1988), la méthode de calcul des pourcentages d'accord n'est pas précisée. Cependant, elle peut être déduite à partir de l'information donnée sur les erreurs. Il semble que les pourcentages d'erreur ont été calculés en divisant le nombre d'erreurs (de « désaccords ») du coteur par le nombre total de cotes entrées par le critère pour un segment de cotes dans l'ensemble du protocole. Par exemple, si le critère a entré 43 déterminants dans un protocole de 23 réponses et que le coteur a commis six erreurs, il obtient alors un pourcentage d'erreur de 14% (6/43).

Ajoutons que les études diffèrent aussi dans le traitement de certains types d'erreurs plus spécifiques. D'abord, dans Exner (1988), les erreurs de niveaux de Forme pour certains Déterminants (ex : coter CF au lieu de FC) n'ont simplement pas été comptabilisées, alors que dans Guarnacia et al. (2001) ces erreurs ont reçu un « demi-accord » (valant 0,5 au lieu de 1). Dans Hilsenroth et al. (2007), aucune mention n'est faite de traitements particuliers de certains types d'erreurs et toutes les erreurs peuvent donc être présumées avoir été traitées de façon équivalente.

Ces multiples différences dans le calcul des taux d'exactitude rendent la comparaison des résultats entre les études très difficile.

5.4 La fidélité inter-juges et le phénomène des « sous-cultures » de cotation

Les recherches sur le Rorschach impliquent souvent l'administration du test à des sujets recrutés pour le but de l'étude, protocoles pour lesquels alors il n'existe par de cotation-critère permettant de mesurer le taux d'exactitude. Dans de telles circonstances, ce sont souvent des mesures de la fidélité inter-juges qui sont offertes comme mesure de fidélité et pour témoigner de la qualité de la cotation. Dans l'ensemble, les données empiriques sur la fidélité inter-juges

du Rorschach-SI se révèlent généralement excellentes ou très bonnes (Meyer, 1997a, 1997b; Janson, 1998; Acklin, McDowell, Verschell & Chan, 2000; Meyer & al., 2002; Viglione & Taylor, 2003; Meyer, 2004; McGrath, Pogge, Stokes, Cragnolino, Zaccario, Hayman & al., 2005).

Cependant, il importe de bien souligner que la fidélité inter-juges n'est pas équivalente à l'exactitude de la cotation. En effet, deux coteurs peuvent s'entendre sur une même cotation sans que celle-ci ne soit exacte! Or, ce type de situation pourrait se produire relativement fréquemment, puisque les différents coteurs d'une même étude proviennent habituellement d'une même équipe de recherche et ont donc probablement développé des conventions communes de cotation, un phénomène connu sous le nom de « sous-cultures de cotation ».

Une démonstration de ce phénomène est fournie par Meyer, Viglione, Erdberg, Exner et Shaffer (2004). Cette étude visait en fait à tenter de résoudre un débat sur la question de la validité des données normatives du Rorschach-SI. En effet, certaines études (Shaffer & al., 1999; Wood & al., 2001; Viglione & Hilsenroth, 2001) ont obtenu dans divers types d'échantillons des données qui divergent substantiellement des données normatives originales de *Rorschach Workshops* (Exner, 1974; Exner & Erdberg, 2005) pour plusieurs des variables du Rorschach-SI. Par comparaison, la cotation dans l'échantillon normatif du *Rorschach Workshops* apparait plus conservatrice, cet échantillon apparaissant plus « sain » ou moins « pathologique ». Et l'interprétation en regard des données normatives originales du Rorschach-SI pourrait donc tendre à sur-pathologiser les sujets.

Cette remise en question des données normatives avait débuté par la publication de l'étude de Shaffer & et al. (1999), qui présentait les données issues d'un large échantillon de 123 adultes

non-patients provenant de la Californie, données qui différaient significativement des données normatives de *Rorschach Workshops* pour plusieurs des variables du Rorschach-SI. Plus précisément, des différences de taille moyenne ou grande ont été relevées pour 36 de 129 variables du Rorschach-SI.

Meyer et al. (2004) ont sélectionné 40 protocoles de chacun des deux échantillons et les ont soumis pour cotation à un troisième groupe de coteurs, soit sept coteurs formés par D. Viglione, considéré expert du Rorschach-SI, ce dernier procédant à une vérification finale des cotations. Or, une fois les protocoles recotés par ce troisième site, la grande majorité des différences observées au départ disparaissaient. Plus précisément, sur les 36 variables pour lesquels des différences de taille moyenne ou grande avaient d'abord été relevées, seules trois continuaient de présenter de telles différences, soit DR1, S-% et Bt, suggérant que les différences apparentes entre les données des deux échantillons relevaient moins d'une différence réelle entre les échantillons, mais bien davantage d'une différence dans les sous-cultures de cotation entre les deux sites.

Meyer et al. (2004) concluent donc qu'il existe des sous-cultures de cotation, ce phénomène pouvant entrainer des différences notables au niveau de la cotation du SI, attribuable à l'ambiguïté qui persiste dans les principes de cotation tels que présentés dans les principales sources de référence du Rorschach-SI. Mais aussi, Meyer et al. (2004) soulignent que les données démontrant une bonne fidélité inter-juges de la cotation du Rorschach-SI peuvent en fait donner un portait optimiste de la fidélité du Rorschach-SI et de la qualité de la cotation des utilisateurs du Rorschach-SI puisque, la plupart du temps, les coteurs impliqués proviennent de la même sous-culture de cotation, et ont donc développé des conventions de cotation homogènes. L'existence de telles « sous-cultures » pourrait donc favoriser des taux de fidélité

inter-juges élevés, qui ne peuvent pour autant être considérés garants de l'exactitude des cotations impliquées. Or, aucune étude comparant des mesures de fidélité inter-juges et d'exactitude au SI n'a pu être relevée dans la littérature.

6. Les principales sources d'information pour la cotation au SI

Pour la cotation au Rorschach-SI, il existe essentiellement deux principales sources d'information. D'abord, la série de trois volumes intitulés *The Rorschach : A Comprehensive System; Volume 1 : Basic Foundations and Principles of Interpretation; Volume 2 : Advanced Interpretation; Volume 3 : Assessment of Children and Adolescent* (Exner, 1974), originalement publiée en 1974, mais rééditée périodiquement depuis. Ces volumes sont souvent appelés « *TRACS* », acronyme de leur titre en anglais. Et c'est le volume 1 de cette série, alors appelé « *TRACS-1* », qui comprend l'information pour la cotation. Cet ouvrage a été traduit en français, soit *Le Rorschach : Un Système Intégré* (Exner, 1995). Ensuite, la série de deux manuels d'apprentissage intitulés *A Rorschach Workbook for the Comprehensive System* (Exner, 2001) et *A primer for Rorschach Interpretation* (Exner, 2000), aussi périodiquement rééditée et traduite en français, soit le *Manuel de cotation du Rorschach : Système Intégré* (Exner, 2002) et le *Manuel d'interprétation du Rorschach – Système Intégré* (Exner, 2003a). Le premier de ces deux manuels, communément appelé le « *Workbook* », comprend l'information pour la cotation.

Bien que le *TRACS-1* contienne un peu plus d'information sur la cotation que le *Workbook*, le principal manuel de référence utilisé est généralement le *Workbook*. Plus léger et compact, et offrant aussi des exercices de cotation utiles pour l'apprentissage, cet ouvrage est plus pratique.

6.1 Une évaluation critique du Workbook

Dans l'ensemble, la qualité de l'information de cotation présentée dans le *Workbook* n'apparait pas optimale pour assurer une bonne exactitude de cotation.

Premièrement, l'information présentée dans le *Workbook* reste très sommaire. Par exemple, sur les 64 pages dévolues à la cotation, seulement 16 pages sont consacrées aux 11 déterminants, ce qui apparait nettement insuffisant considérant la complexité de la cotation des déterminants. Certains déterminants sont à peine effleurés, par exemple le FD qui est traité en 15 lignes, ou encore le Cn qui est brièvement décrit dans un tableau introductif mais qui n'est pas repris en plus de détails nulle part dans le texte.

Deuxièmement, l'information présentée dans le *Workbook* manque souvent de clarté. Certains segments de texte sont ambigus et laissent le lecteur avec de nombreux questionnements. Par exemple, dans la section sur la Couleur chromatique, le texte insiste sur comment un même objet peut obtenir une cote FC, CF ou C dépendamment de comment il est verbalisé par le sujet, amenant le lecteur à croire que le choix d'une cote de Couleur chromatique repose bien davantage sur la forme de la verbalisation que sur le type d'objets. Or, en pratique, c'est plutôt le contraire.

Troisièmement, l'information présentée dans le *Workbook* manque de structure. En effet, l'information est présentée sous forme de texte continu, avec diverses « thématiques » traitées les unes après les autres, sans organisation évidente ou titres clairs. Ce manque de structure rend non seulement très difficile de repérer l'information recherchée dans le *Workbook*, mais aussi, et surtout, ne se traduit pas en une approche systématique à la cotation pour le lecteur.

Quatrièmement, le *Workbook* contient 300 réponses qui servent d'exercices de cotation, ordonnées par niveaux de difficulté. Ce type d'exercices peut être très utile pour l'apprentissage de la cotation. Cependant, la clé de correction qui est fournie avec ces exercices n'offre que la cotation exacte, sans aucune explication qui permettrait au lecteur de comprendre ses erreurs. Ce manque d'élaboration de la clé de correction vient sérieusement limiter l'utilité de ces exercices.

À ce sujet, il est à noter que les exercices de cotation avec corrigés pourraient aussi servir une fonction de « banque de cas de figure » si une certaine organisation y présidait. En effet, en regard de l'exactitude de la cotation, l'appui sur de multiples cas de figure, avec des exemples (présence d'une cote) et contre-exemples (absence d'une cote), pour résoudre des dilemmes de cotation pourrait s'avérer être une riche source additionnelle d'information pour la cotation. Cependant, sans organisation permettant de repérer efficacement les exemples pertinents à un dilemme de cotation particulier, cette ressource ne peut être utilisée.

Bref, dans l'ensemble, l'information disponible dans le *Workbook* n'apparait donc pas optimale, et l'utilisateur du Rorschach-SI qui tente de coter des protocoles personnels (voire même les exercices contenus dans le *Workbook* lui-même!) à partir de ces manuels se voit rapidement confronté à diverses questions et nombreux cas de figure qui ne trouvent aucune correspondance dans l'information du *Workbook*.

Devant le manque d'information offerte sur la cotation du Rorschach-SI, les utilisateurs se voient dans l'obligation de recourir à l'extrapolation à partir de l'information disponible, ce qui soulève des questions quant à l'exactitude de la cotation qui en résulte. En effet, l'extrapolation peut bien sûr mener à de multiples conclusions différentes. Par exemple, un

sujet qui donne une réponse de « cheveux tirés » soulève notamment la question du type de déterminants de mouvement approprié, plus spécifiquement cette réponse doit-elle être cotée comme un Mouvement humain (M) ou un Mouvement inanimé (m). Or, le *Workbook* ne mentionne pas ce cas de figure. Un premier utilisateur peut donc partir des descriptions de base de ces deux déterminants, et conclure que puisqu'il s'agit de cheveux « humains », le déterminant approprié doit donc être M. Un deuxième utilisateur peut lui plutôt se baser sur un exemple disponible qui traite de « sang », coté m, et conclure que les cheveux sont eux aussi un élément biologique mais à considérer séparément de leur hôte d'origine, et choisir alors comme déterminant m. Or, le déterminant m fait partie des cotes dont les données normatives sont de très basses fréquences, plus spécifiquement 1, et le seul choix illustré ici aurait donc un effet important sur les corrélats interprétatifs obtenus pour le sujet en question. Ce genre de dilemme de cotation se présente généralement plusieurs fois dans un protocole, avec donc une possibilité de biais important dans l'interprétation obtenue.

Le manque d'information crée donc une variabilité dans les décisions de cotation, et, bien que chaque utilisateur puisse offrir un raisonnement logique à sa décision et donc avoir l'impression d'avoir la cotation « exacte », ces diverses cotations ne peuvent bien sûr toutes être exactes.

7. Le projet de recherche de cette thèse

7.1 Présentation de la première étude

Dans un premier temps, le présent projet visait à approfondir les connaissances sur l'inexactitude de la cotation au Rorschach-SI. Plus spécifiquement, une étude a été effectuée afin de mesurer les taux d'exactitude et identifier les types d'erreurs dans la cotation des

différents déterminants chez un groupe d'étudiants débutants formés à la cotation des déterminants du Rorschach-SI avec le manuel de référence standard, soit le *Workbook*. Cette première étude est présentée dans le chapitre 2 de cette thèse, intitulé « *A Study of Scoring Inaccuracy in Rorschach-CS Determinant Coding* », et cet article sera soumis pour publication à la revue *Rorschachiana*.

7.2 Présentation de la deuxième étude

Les taux et types d'erreurs identifiées dans la première étude pouvant mettre en lumière des lacunes dans le manuel de référence standard pour la cotation au Rorschach-SI, le *Workbook*, une révision critique de ce manuel a été entreprise et un nouveau manuel a été rédigé afin de redresser les problématiques relevées dans le *Workbook*.

Suite au développement du nouveau manuel de cotation, une deuxième étude a été entreprise afin de vérifier l'effet de ce nouveau manuel « amélioré » sur l'exactitude de la cotation des déterminants au Rorschach-SI, comparativement au manuel standard, le *Workbook*. Cette deuxième étude est présentée dans le chapitre 3 de cette thèse intitulé « *Effect of A New Manual for Rorschach-CS Determinant Coding on Scoring Accuracy* », et cet article sera soumis pour publication à la revue *Rorschachiana*. Le nouveau manuel de cotation utilisé dans cette étude est intitulé « *Rorschach-CS Determinant Scoring* » et est présenté dans le chapitre 4 de cette thèse. Cet ouvrage est disponible en contactant l'auteure.

CHAPITRE 2 – PREMIER ARTICLE : « A Study of Scoring Inaccuracy in Rorschach-CS Determinant Coding »

A Study of Scoring Inaccuracy in Rorschach-CS Determinant Coding

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Abstract. Quality of scoring is of pivotal importance in the Rorschach – Comprehensive System (CS), as it insures validity of interpretation. Quality of scoring in Rorschach-CS studies is often reported in terms of interrater reliability at the structural summary level. Although such measures might be the most appropriate in terms of applied reliability, they are more "permissive" in terms of scoring errors than studies of scoring accuracy at the response level. Very few studies have actually reported on the level of scoring accuracy in Rorschach-CS users, and these studies offer contradictory findings. Some studies also report troublingly low accuracy rates in graduate students, and even in experienced clinicians. Moreover, very little information is available in the literature on the various types of scoring errors made by coders and their respective prevalence. A study was conducted to measure accuracy levels and identify types of coding errors and their prevalence in a sample of undergraduate students (n=14) trained in Rorschach-CS determinant coding with the standard reference manual for Rorschach-CS coding, namely the "Workbook". First, results show low accuracy levels, with scores ranging from 20,5% to 67,0% (M = 39,8%) and from k .32 to k .81 at the determinant category level, and scores of 22,9% and 47,9% at the determinant segment level. Such low rates were however expectable, as the sample here was somewhat less skilled and motivated than usual samples of graduates students or clinicians, and the protocols scored were of extremely high difficulty. Second, errors made by the students were analyzed and categorized, which yielded a list of all types of errors and their prevalence for a selection of five

determinant categories: Human Movement, Animal Movement, Inanimate Movement, Chromatic Color, and Form Dimension. Some of the types of errors found could reflect weaknesses in the Workbook, and a critical review of the Workbook is recommended.

INTRODUCTION

This article will first address in details the notion of scoring accuracy in the Rorschach-CS, reviewing its specific literature, distinguishing it from the close-kin notion of interrater reliability, discussing its various calculation methods, and identifying particular types of errors often found in Rorschach-CS scoring. This article will then describe the present study, with its methods and results, concluding by a discussion of the results.

Many surveys on the usage of psychological tests in the last 40 years have shown a substantial use of the Rorschach Inkblot Test (RIM) in research and clinical practice (Butcher & Rouse, 1996; Camara, Nathan & Puente, 2000; Hilsenroth, Charnas, Zodan & Streiner, 2007), the RIM being ranked the fourth most widely used test (Hogan, 2005; Sahly, Shaffer, Erdberg & O'Toole, 2011). And among all systems developed for the RIM, the Comprehensive System (CS) (Exner, 1974) has become the most widely used, taught and studied system (Mihura & Weinle, 2002; Viglione & Meyer, 2008; Guarnaccia, Dill, Sabatino & Southwick, 2001; Hilsenroth & Handler, 1995; Shontz & Green, 1992).

"Quality of scoring" in Rorschach-CS studies

Quality of scoring in the usage of the Rorschach-CS is highly important, as it insures validity of interpretation. The normative frequencies of many scores are very low, and over- or under-scoring can thus significantly alter the resulting interpretation. But if, on the one hand, the Rorschach-CS is highly sensitive to scoring errors, on the other hand, the complexity of its

scoring system also makes it prone to scoring errors. Indeed, scoring accuracy is very difficult to achieve, even for experienced rorschachers, as there are a great many number of scores, each with its specific rules of application, and many case figures that are ambiguous and fall between guidelines.

A literature review reveals a great number of studies that report on Rorschach-CS quality of scoring (for example, a massive study by Meyer, Hilsenroth, Baxter, Exner, Fowler, Piers and Resnick (2002), which reports on interrater reliability rates in eight samples of protocols). And, overall, these reports show Rorschach-CS scoring to be very good or excellent (Meyer, 1997a, 1997b; Janson, 1998; Acklin, McDowell, Verschell & Chan, 2000; Meyer et al., 2002; Viglione & Taylor, 2003; Meyer, 2004; McGrath, Pogge, Stokes, Cragnolino, Zaccario, Hayman et al., 2005).

However, a few remarks are warranted here. First, almost all studies reporting on Rorschach-CS quality of scoring do so in terms of interrater reliability, not in terms of scoring accuracy. Although the two notions may appear akin, they are not to be considered equivalent. In fact, in both cases the scoring of one coder is compared to the scoring of another coder, and the level of similarity between the two scorings is evaluated. But, in scoring accuracy, the scorings of a sample of coders (e.g. 20 different coders) are individually compared to the scoring of a criterion, an "expert" whose scoring is presumed to be 100% exact, in particular scoring by the Rorschach Training Programs / Exner group. While in interrater reliability, the scoring of only two coders are simply compared to each other, and such coders range substantially in their level of mastery, from highly experienced clinicians and researchers to students newly formed in the Rorschach-CS.

The very high prevalence of interrater reliability reports over scoring accuracy reports can be easily understood, as most studies using the Rorschach-CS involve protocols administered by researchers or clinicians to particular samples of subjects. And studies of scoring accuracy require a "criterion-scored" protocol, which is often not available (or not arranged). But it should be kept in mind that interrater reliability is not an as "stringent" evaluation of quality of scoring as scoring accuracy. Indeed, in interrater reliability, two coders can agree on a particular score, even if the score is incorrect. And such instances could be relatively frequent, as the various coders in one study often come from the same academic/research environment, and have therefore probably developed common coding conventions. Meyer, Viglione, Erdberg, Exner and Shaffer (2004) named this phenomenon "coding sub-cultures", and provided a demonstration of it. In their study, a team trained by D. Viglione recoded 40 protocols from the original normative sample (Exner, 1974) and 40 protocols from a new sample collected by Shaffer, Erdberg and Haroian (1999). Indeed, when Shaffer and al. (1999) published the data from their new sample, they showed that the prevalence of many scores in their sample differed significantly form their prevalence in the original normative sample from Exner (1974). However, after the recoding of both series of protocols by the third coding team, almost all of these differences disappeared. Meyer and al. (2004) concluded that the differences originally found did not reflect real differences in the two samples, but rather reflected differences in the "coding sub-cultures" of the two original coding teams. As coders in one study often come from the same research/academic environment, the phenomenon of coding sub-cultures could favor higher levels of interrater reliability, that do not necessarily reflect actual levels of scoring accuracy.

It is also worth noting that quality of scoring in Rorschach-CS studies is often measured at the structural summary level, which is more permissive in terms of coding errors than when measured at the level of the scores themselves (Meyer, 1999; Meyer et al., 2002). For example, interpretation of many structural summary variables operates with one or more threshold scores that delineate sub-groups of scores (e.g. 0 to 2 / 3 or more). Coders may have assigned a particular score a different number of times in the protocol, but still fall in the same range. And, they may have assigned their scores to different responses, a "disagreement" which would not be captured at the structural summary level. Meyer (1999; Meyer et al., 2002) recommends that although analysis at the structural summary level might be less stringent, it would the most appropriate level for studies of the applied reliability of the Rorschach-CS in research or practice, because interpretation is based directly on the structural summary results. On the other hand, in studies aiming specifically at the Rorschach-CS scoring accuracy, the indicated choice would here be to conduct analyses at the response level.

So, overall, interrater reliability rates, especially at the structural summary level, are not the most stringent evaluation of the quality of scoring, and may "hide" many actual scoring errors. These scoring errors at the response level have to be studied in order to (1) know more precisely the actual level of scoring accuracy of Rorschach-CS users, but mostly to (2) identify the types of errors that are made, their frequency, and the reasons why such errors are made. Such information is necessary to inform coders of perhaps unknown errors and offer corrective information. And bettering the scoring accuracy of Rorschach-CS users at the response level would only further promote accuracy at the structural summary level.

Three Studies of Accuracy Levels

As mentioned earlier, studies that specifically report on Rorschach-CS scoring accuracy at the individual scores level are rare. A literature review on the specific topic yielded only three studies (Exner, 1988; Guarnaccia et al., 2001; Hilsenroth et al., 2007).

The first study is an Alumni Newsletter from Rorschach Workshops (Exner, 1988), which presents the scoring accuracy rates for approximately 215 trainees (300 trainees from three different types of workshops were sent a protocol, with return rates of 65%, 70% and 80%, the exact number of returned protocols per group not being mentioned) on four scoring segments: DQ, Determinants, Z Scores, and Special Scores. In the article, results are reported in terms of error rates, but, to facilitate comparison with other studies described below, these have been converted here in terms of accuracy rates. These accuracy rates, in increasing order, are as follows: Special Scores 72%, DQ 83%, Determinants 85% and Z Scores 91%. Exner (1988) concluded that such results were troublesome, as error rates of this magnitude can lead to inaccurate interpretation.

The second study is one by Guarnaccia and al. (2001), in which 21 psychology graduate students and 12 practicing clinicians scored a 20-response protocol. The accuracy rates reported vary from 36,87% and 97,50%, with scores below 80% for six of the nine scoring segments. Guarnaccia and al. (2001) concluded to a major problem that requires immediate attention, and suggested a certification process for the clinical use of the Rorschach-CS and a revision of the reference manuals to include more coding information.

The third study is one by Hilsenroth and al. (2007), in which 29 psychology graduate students followed a “structured training program” developed by Hilsenroth and Charnas (2007) and

scored two protocols, one at mid-point and one at the end of the training program. Accuracy rates reported vary from 65% to 99%, and from k .56 to k .98, with only two coding segments obtaining below "excellent" ratings, namely Z Scores and Special Scores. These results are of course very different from the results obtained by Guarnaccia and al. (2001), and Hilsenroth and al. (2007) concluded that such differences were attributable to differences in the types of training provided and in the calculation methods used for the accuracy rates.

Overall, these studies of Rorschach-CS scoring accuracy show contradictory results, with some studies reporting troublingly low accuracy levels for both students and experienced clinicians.

Calculation methods for accuracy levels

As Meyer (1999) summarizes, accuracy levels (and inter-rater agreements) may be calculated using various statistics and at different levels of analysis. Statistics used include percentages of exact agreement (on presence and absence of score options, or on presence alone of score options), measures of association such as the Pearson correlation, measures of chance-corrected agreement such as the kappa and intra-class correlation (ICC), and measures of deviation. As mentioned previously, levels of analysis can be at the structural summary level or at the responses level. And analysis at the responses level can range from very specific to more global, that is specific scores, categories of scores, or segments of scores. "Segments" of scores refer to the nine general coding dimensions, namely Location, Developmental Quality (DQ), Determinants, Formal Quality (FQ), Pair, Contents, Popular, Z Scores, and Special Scores. "Categories" of scores refer to specific sub-divisions that can be made within some of these general dimensions. For example, the Determinant segment includes 11 categories,

namely Human Movement, Animal Movement, Inanimate Movement, Chromatic Color, Achromatic Color, Shading-Texture, Shading-Vista, Shading-Diffuse, Form Dimension, Reflection, and Form.

It should also be underlined that there are also different manners by which to judge what is considered an "agreement" between two coders. Sometimes, authors consider certain errors as "secondary", and value them differently than other "primary" errors. Common "secondary" errors are inaccuracies in the levels 1 and 2 assignations for certain Special Scores (e.g. INC1 vs INC2), in the levels of form when coding Colors, Shadings or Reflection determinants (e.g. FC vs CF), and in subscripts when coding Movements determinants (e.g. Ma vs Mp). Such errors are sometimes valued only as "half-mistakes" or simply not tabulated as mistakes.

If results on past studies of Rorschach-CS accuracy levels appear contradictory, it may be due, at least in part, to the various methods used for their calculation. For example, while only Hilsenroth and al. (2007) offered measures in kappas, all three studies detailed above report accuracy rates in percentages of agreement. But, scores in Hilsenroth and al. (2007) were calculated based on agreements at the segment level, with all types of errors being valued equally, while scores in Guarnaccia and al. (2001) and Exner (1988) were calculated based on agreements at the score level, with certain types of errors being weighted differently.

As mentioned previously, Meyer (1999; Meyer et al., 2002) has suggested that while analysis at the structural summary level may be more appropriate for studies of applied reliability of the Rorschach-CS for research and practice, the response level is the appropriate level of analysis for "stringent" studies of scoring quality. Also according to Meyer (2002), the appropriate statistic for analysis of the quantitative data at the structural summary level is the

ICC, while the appropriate statistic for analysis at the qualitative response level (individual scores) is the kappa. In accordance, in previous Rorschach-CS scoring accuracy studies, the level of analysis has been at the response level (generally "scoring segments") and the statistics used were generally percentages of agreement and kappas.

Types of errors

Previous Rorschach-CS scoring accuracy studies that report on accuracy at the segment level have helped identify the "most difficult" segments (i.e. coding segments obtaining the lowest scoring accuracy). Segments obtaining the lowest accuracy rates are generally Determinants and Special Scores, with sometimes also Z Scores and FQ.

Among these, Determinants stand out, as they are not only reputed as very difficult to score but they are also central to interpretation. Indeed, Exner (2001) warns coders that "the most important and most complex of the coding decisions concerns the response determinant(s)". And determinants are involved in the coding of all responses, and in a great number of summary scores. Accuracy in scoring determinants is therefore of the uttermost importance for validity of interpretation, but a great mastery of determinant coding is also central for administration, as determinants are the object of most inquiries.

Very rarely do studies reporting on accuracy rates (or inter-scorer agreement) provide information on the specific types of errors most commonly made and why such mistakes are made. As an exception, Exner (1988) does report on the subject in his Alumni Newsletter. First, distribution of errors of omission (not entering a correct score) and errors of commission (entering a incorrect score) are reported for three scoring segments: Determinants, Z Scores

and Special Scores. Errors of omission are reported more prevalent for Determinants and Z Scores, while errors of commission are reported more prevalent for Special Scores.

Second, certain error patterns for four coding segments are mentioned. Some of the most common errors were: for DQ, scoring + for single objects and scoring v for objects that have specific form demand; for Determinants, omitting scores (for movement in particular), scoring movement while omitting subscript, erroneously scoring m for descriptions of positionality with no unnatural tension state, scoring both achromatic color and shading where only shading should be scored, and entering two color codes for one response; for Z Scores, scoring Z for DQo responses, and omitting Z for Wo or DQ+ responses; for Special Scores, omitting MOR, AG and PER, and erroneously adding DR or ALOG. Exner (1988) comments that most of the Determinants and Special Scores errors seem to have occurred because of some failure to understand or properly apply scoring criteria.

More information on specific types of errors is greatly needed to better understand sources of inaccuracies, and highlight the coding principles that are most difficult to grasp and apply.

The Workbook as the Reference Manual

The Rorschach-CS text most commonly used as a reference manual for coding is *A Rorschach Workbook for the Comprehensive System* (Exner, 2001), commonly known as the "Workbook". Another volume, *The Rorschach : A Comprehensive System; Volume 1 : Basic Foundations and Principles of Interpretation* (Exner, 1974, 1986, 1993, 2003), commonly known as "TRACS-1", can also be used as a reference for coding, but as it is heavier and cumbersome, the more handy Workbook is generally preferred.

Other resources for Rorschach-CS coding include a well-known manual by Viglione (2002), a newly published book by Meyer, Viglione, Mihura, Erard and Erdberg (2011), and also some softwares that can "assist" the coder in its task. Viglione (2002)'s manual, *Rorschach Coding Solutions: A Reference Guide for the Comprehensive System*, is a highly detailed and systematized text that treats coding issues in great depth. However, no studies have been found in the literature to substantiate its coherence with the Rorschach-CS scoring. In fact, the very detail-oriented approach in Coding Solutions suggests that it could lead to over-scoring, or at least over-inquiring, compared to the more conservative practices suggested in Exner's writings. Studies would have to be conducted to ascertain the level of coherence of the two approaches.

Certain softwares exist (e.g. RIAP, ROR-SCAN) that can aid the coder as he assigns scores to each response. Such softwares offer suggestions and reminders of coding principles that could be pertinent to the score entered, and they can sometimes identify certain types of errors and even prevent the coder from entering those codes. Such aids can be valuable in minimizing scoring errors. However, they can only add to, and not replace, an appropriate level of mastery of the scoring system by the coder.

A new manual was also published recently by Meyer and al. (2011), *Rorschach Performance Assessment System (R-PAS): Administration, Coding, Interpretation, and Technical Manual,* which appears denser in scoring information and more complete than the Workbook. However, it has to be underligned that this manual pertains to a scoring system that is distinct from the Rorschach-CS, although derived from it, namely the R-PAS (Rorschach Performance Assessment System). Certain scores and scoring principles are shared by the two systems, and

therefore some of the coding information in this new book could aid in some aspects of the Rorschach-CS scoring.

But, overall, the Workbook is still the quintessential reference for Rorschach-CS scoring. However, its quality as a reference manual for Rorschach-CS scoring does not appear optimal for scoring accuracy, as the information offered appears very limited, and lacking in clarity and structure. Indeed, Rorschach-CS users attempting to code personal protocols, or even the coding exercises contained in the Workbook itself, are quickly confronted to numerous questions or case figures that are not addressed. Users often have to operate deductions and extrapolations to extract their own comprehension of ambiguous segments. And, overall, the jumbled continuous text not only renders the information difficult to isolate and localise for consultation, but it also does not translate into a systematic structured method to approach scoring. Such shortcomings of the Workbook can only contribute to inaccuracies in coding, both for beginners and experienced rorschachers, and the identification of the various types of errors made by coders could point toward some of the weaknesses in the Workbook.

It is interesting to note that although the Workbook presents some evident shortcomings, no critical review of its content can be found in the literature. It is worth noting here that Rorschach Training Programs have announced that a new Workbook is in the works, but is not yet available.

Current Study

As mentioned previously, in the overall Rorschach-CS scoring system, determinants are difficult to score and have a great impact in the interpretation of the test. As such, this study of

scoring accuracy opted to concentrate specifically on this particular segment in the Rorschach-CS scoring.

The main objective of this research was to study accuracy levels and types of errors in the scoring of Rorschach-CS determinants in a group of "low Rorschach-CS skilled" students that received a basic training in Rorschach-CS determinant scoring using the Workbook.

The first specific objective was to quantify and compare levels of scoring accuracy for each determinant category. Levels of accuracy were expected to be low. Indeed, some previous studies on scoring inaccuracy, in particular Guaranaccia and al. (2001), have reported relatively low accuracy rates even for more advanced samples (graduate students and experienced clinicians). Levels of accuracy were also expected to be lower for certain determinant categories, namely Inanimate Movement and Color, as these determinant categories are reputed more difficult in the literature (Exner, 1988).

The second specific objective was to identify and quantify types of errors for five selected determinant categories, namely Human Movement, Animal Movement, Inanimate Movement, Chromatic Color and Form Dimension. The only known study to report on specific types of coding errors (Exner, 1988) mentioned certain coding issues regarding the coding of movements and colors. However, error types were not systematically listed and no frequency data was offered. As such, in the present study, it was unclear exactly, which types of errors would reveal themselves to be more common for the selected determinants.

METHODS

Participants

Participants were undergraduate students enrolled in a psychology class at a large metropolitan university, who showed interest in attending a workshop on the administration, scoring and interpretation of the Rorschach-CS. Undergraduate students in psychology were chosen here because they were easily accessible, and would be potentially interested in learning Rorschach-CS.

The 14 students who completed the workshop were 8 men and 6 women ranging in age from 20 to 35 years old (M = 24,15). Most of them (92,8%) were full-time students in a psychology program, with a mean number of 40,25/90 credits accumulated and a mean cumulative average of 3,47/4,3. They had no prior experience with the Rorschach-CS. At the beginning of the workshop, they rated their motivation level as very high (M = 6,36/7,00).

There were 18 other students (representing 56,3% of the students originally interested in the workshop), 15 women and 3 men, who also started the workshop but withdrew before the end. T-tests showed that they did not differ significantly from the students who completed the workshop in age (ranging from 19 to 38 years old; M = 23,56), student status (most (72,8%) were full-time students in a psychology program), number of credits accumulated (M = 45,78/90), cumulative average (M = 3,70/4,3), and motivation level reported at the beginning of the workshop (M = 6,11/7,00).

The instructor was female, a clinical psychologist and teacher, with extensive experience in the usage and teaching of the Rorschach-CS.

Materials and Procedures

Participants were recruited via an email invitation sent to all undergraduate students registered in a psychology class. Interested parties contacted the research team and were invited to register on the workshop website and attend the first session of the workshop. A General Information Questionnaire was made available on the website to be filled and brought to the first session. The General Information Questionnaire included questions on socio-demographic variables, previous experience in psychology, and motivation type and level for the workshop. Motivation level was evaluated with a 7-point likert scale (with 1 signifying "not at all motivated" and 7 signifying "extremely motivated"). At the beginning of that first meeting, information was given on the research project and the involvement required in the workshop, and interested participants signed a consent form.

The workshop consisted of eight weekly sessions, each for a period of 2h30 to 3h, for a total of approximately 22h. One session was devoted to administration (week 1), five sessions were devoted to scoring (weeks 2 to 6), and two sessions were devoted to interpretation (weeks 7 and 8).

Basic course material included written documents made by the instructor, namely summaries of Rorschach-CS texts (Exner, 2003, 2001) on administration, scoring and interpretation, and integral excerpts of the Workbook (Exner, 2001), namely the chapter on the scoring of determinants (p.30-46) and the working tables (p.107-167).

Teaching of scoring was split across five sessions. The first session tackled basic coding, with an overview of all coding categories. The following four sessions focused on the scoring of determinants, with each session addressing particular determinants, namely: (1) Movement

(Human, Animal, Inanimate), (2) Color (Chromatic, Achromatic), (3) Shading (Texture, Vista, Diffuse), (4) Form Dimension and Reflection, for a total of approximately 11 hours of training on determinant coding.

For each session on determinant coding, students were asked to read beforehand the pertinent written material. In class, the instructor gave an oral presentation on the scoring of the determinants under study, and the presentations were based on the content of the Workbook, mirroring it in structure and depth. The instructor also answered all students' questions and offered additional examples and comments when pertinent. Two to four criterion-scored protocols containing between 15 and 25 responses (M = 20,88) were provided to students for each session. The first of these protocols was used in class to practice applied scoring. The first 10 responses were scored collectively, with students suggesting scores and the instructor commenting on the students' propositions and ultimately providing and explaining the correct scoring. Students then completed individually the scoring of the remaining responses of the first protocol, and issues in the scoring of these responses were discussed in group before ending the session. At home, students had to score on their own the other protocols, and hand them in at the next session. The scoring of these protocols was then reviewed at the beginning of the next session, with students being asked to tell the instructor their chosen scoring and explain their choice. The instructor commented on the students' reasonings, and ultimately provided and explained the correct scoring.

After all sessions on scoring were completed, students were asked to do the complete scoring (all coding categories) of two test protocols.

A total of 11 criterion-scored protocols were used in the workshop. To insure that the criterion-scored protocols used in the workshop were cohesive with the reference manual used by students for scoring (a chapter from the Workbook), scoring protocols were culled directly from the Workbook. The Workbook contains scored coding exercises, more precisely 300 responses divided in sections, resulting in 13 protocols of 15 to 25 responses. These scored exercises are divided in sections that correspond to four different levels of difficulty or complexity. Exner (2001) provides a description of these levels of difficulty, which are mainly based on the difficulty in coding the Determinants and the Special Scores. Responses in sections 1 and 2 are said to be "fairly straightforward", containing examples of a great variety of easily identifiable determinants, and few Special Scores. Sections 3 to 6 are said to be "more difficult and more complex", containing examples of determinants blends, and many Special Scores. Sections 7 and 8 are said to be "challenging for any rorschacher". As such, the difficulty level of these various sections could be assumed to be "low" for sections 1 and 2, "intermediate" for sections 3 to 6, and "high" for sections 7 and 8.

Protocols for the workshop were selected to insure the desired level of difficulty and an adequate representation of the variety of responses involved in the determinant categories under study. The final test protocols were chosen first. A high level of difficulty was desired here in order to test the limits of the students' knowledge on scoring and identify the most difficult coding issues for each determinant. Sections 7a and 8 of the Workbook coding exercises were retained here, and they could not be used at any other time in the workshop. Protocols for each of the four sessions focusing on particular determinants were chosen next. These practice protocols could be reused to code for different determinants, and the desired level of difficulty was low or intermediate, as these would be used to gradually introduce

students to the complexities of the scoring of specific determinants. Retained protocols were as followed: sections 1a, 4a and 4b for Movement; sections 4b, 2a and 5b for Color (chromatic and achromatic); sections 2a, 2b, 3 and 4b for Shading (texture, vista and diffuse); sections 3, 4b and 6a for Form Dimension and Reflection.

Table 1 presents the estimated levels of difficulty and number of responses for each segment of the workshop.

The final test protocols included a total of 106 determinants, and all determinant categories were represented. Most of the responses (32 of 50) included blends of determinants, with 13 responses involving two determinants, 14 responses involving three determinants, and five responses involving four determinants.

TABLE 1

Estimated Levels of Difficulty and Number of Responses for Workshops Segments

	Protocols from Workbook	Estimated Level of Difficulty	Total Number of Responses
Sessions on Scoring			
(1) Movement	1a, 4a, 4b	Low/Intermediate	60
(2) Color	4b, 2a, 5b	Low/Intermediate	65
(3) Shading	2a, 2b, 3, 4b	Low/Intermediate	85
(4) Form Dimension and Reflection	3, 4b, 6a	Intermediate	65
Final Test	7a, 8	High	50

Analytical Strategies

Accuracy Scores at the Determinant Category Level

As the aim of this study was to measure and compare accuracy levels between determinant categories, the appropriate level of analysis here was not the determinant segment level, but

rather the determinant category level. Table 2 presents the entry choices that were used to tabulate the coders' scoring for each of the 10 determinant categories.

For each determinant category, all valid score options are mutually exclusive, and only one score option can be entered per response. So, for each determinant category, the subject's score was compared to the criterion's score on all of the 50 responses. And accuracy scores at the determinant category level were calculated in percentages of agreement and in kappas for each of the 10 determinant categories.

TABLE 2

Entry Choices for Determinant Categories

Determinant Categories	Entry Choices	
	Valid	Invalid*
Human Movement	Ma, Mp, Map, no M	Mx
Animal Movement	FMa, FMp, FMap, no FM	FMx
Inanimate Movement	ma, mp, map, no m	mx
Chromatic Color	C, CF, FC, Cn, no C	Cx
Achromatic Color	C', C'F, FC', no C'	C'x
Shading-Texture	T, TF, FT, no T	Tx
Shading-Vista	V, VF, FV, no V	Vx
Shading-Diffuse	Y, YF, FY, no Y	Yx
Form Dimension	FD, no FD	FDx
Reflection	rF, Fr, no r	rx

*The invalid entry for each category was used whenever a student gave an erroneous score, for example scoring the same determinant category twice in a response, or scoring a movement with no subscript.

As the aim of this study was to conduct a stringent analysis of determinant scoring, the most "stringent" analytical strategies were chosen in order to capture the most of the coding errors. First, the basis for judging agreement was kept as severe as possible to insure capturing all types of errors. If the two scores were *exactly the same*, it was judged an "agreement". If the

two scores *differed in any aspect* (including differences limited to levels of form or subscripts), it was judged a disagreement. No special "lenient" treatment was made of any particular type of errors.

Second, percentages of agreement were here *limited to agreements on the presence* of a determinant category (i.e. excluding agreements on absence of a determinant category). Indeed, when the determinant segment is broken-down into its categories, each category is only involved in a small number of the responses. And as agreement is judged for each of the 50 responses for each category, the great number of responses where the particular determinant category is not implicated creates in a very high number of instances where both coders agree on the absence of the determinant category, yielding mistakenly high percentages of agreement if calculated on both presence and absence of a determinant category. Instead, only instances where at least one of the coders has entered a score option of the determinant category were retained. For example: if the criterion has entered a score option for Human Movement on responses 1, 3 and 5, while the student has entered one on responses 1, 3, 4 and 6, there are five responses where either criterion or student has made an entry for this determinant category (responses 1, 3, 4, 5, 6) but the student agreed with the criterion only on two of these five instances (responses 1 and 3), yielding a 40% agreement rate for that subject for that determinant category.

As kappas take into account chance agreement, they were calculated standardly, on both presence and absence of a determinant category.

Accuracy Scores at the Determinant Segment Level

In order to allow comparison with other studies and standard "benchmarks", accuracy scores at the determinant segment level were also calculated in percentages of agreement, following the methods used by Hilsenroth and al. (2007) and Guarnaccia and al. (2001).

Interpretation of Accuracy Levels

Norms for interpreting kappa scores are as follows: < 0.40 = *poor*, 0.40–0.59 = *fair*, 0.60–0.74 = *good*, > 0.74 = *excellent* (Shrout & Fleiss, 1979). Cicchetti (1994) more recently offered slightly modified norms for the upper ranges, namely: < 0.40 = *poor*, 0.40–0.59 = *fair*, 0.60 to 0.74/0.79 = *good*, > 0.75/0.80 = *excellent*, and > 0.80 = *nearly prefect*. In this study, the more recent norms by Cicchetti (1994) were used. Norms for interpreting percentages of agreement are not as clearly defined. However, a well-renown norm of acceptability is the 80% threshold required by the Journal of Personality Assessment (Weiner, 1991).

Types of coding errors

Among all the determinant categories, five were chosen as a representative sample for a deeper study of types of coding errors. First, all three categories of Movement (Human, Animal and Inanimate) were chosen, because Movement determinants are highly frequent and their scoring relies on a complex set of principles that differs from those that govern the scoring of the other determinants. Then, of the remainder of the determinant categories, many shared one feature: varying levels of form. Of these determinant categories, one was selected, namely Chromatic Color as it is most frequent, and its scoring involves many figure cases not found in most other determinant categories (e.g. color convergence, step-down principle, etc.).

And, at last, as the scoring of dimensionality presents its own particularities, of the two determinant categories pertaining to dimensionality (Shading-Vista and Form Dimension), one was chosen, namely Form Dimension. And, as many of the scoring principles involved in these five determinant categories do generalize to other determinant categories, they were considered an appropriately representative sample for the study of determinant scoring errors.

For each determinant category, students' errors were identified, grouped and classified, and the prevalence of each error type was then calculated in percentages.

Prevalence of errors of commission was calculated based on the total number of entries made by participants for particular determinant categories, namely 424 entries for Movement, 442 entries for Color, and 75 entries for Form Dimension.

Prevalence of errors of omission was calculated based on the total number of entries expected for particular determinant categories, namely 588 for Movement (42 cases X 14 participants), 280 for Color (20 responses X 14 participants), and 112 for Form Dimension (8 responses X 14 participants).

Prevalence of errors of options for Movement and Color scoring was calculated based on the total number of entries made by participants that were expected for the particular determinant categories (excluding commission errors), namely 403 for Movement and 225 for Color. There are no errors of option for Form Dimension, as there is only one score option in that determinant category.

Within these three main types of errors (commission, omission, options), sub-types of errors were also identified, and prevalence was calculated based on the total number of errors for the main type.

RESULTS

Scoring Accuracy

Table 3 presents the scoring accuracy results in percentages of agreement (on presence of scores options) and in kappas for each determinant category.

TABLE 3

Accuracy Rates at the Category and Segment Levels

	Category Level Accuracy	
	% Agreement (SD)	Kappa (SD)
Human Movement	37,7 (14,1)	.49 (.14)
Animal Movement	56,5 (11,0)	.66 (.10)
Inanimate Movement	29,9 (17,2)	.46 (.17)
Chromatic Color	41,8 (14,5)	.53 (.20)
Achromatic Color	39,4 (14,7)	.50 (.21)
Shading Texture	47,1 (33,6)	.51 (.21)
Shading Vista	20,5 (12,0)	.38 (.15)
Shading Diffuse	35,3 (9,0)	.49 (.11)
Reflection	67,0 (25,8)	.81 (.12)
Form Dimension	26,1 (11,0)	.32 (.15)

M = 39,8%

	Segment Level Accuracy
	% Agreement (SD)
Method used by Hilsenroth & al. (2007)	22,9 (8,0)
Method used by Guarnaccia & al. (2001)	47,6 (10,8)

Overall, category and segment level accuracy rates for the sample were low, and appear well below known acceptable levels and other published studies on scoring accuracy.

At the category level, the accuracy rates in percentages of agreement range from 20,5% to 67.0% (M = 39,8%), rates that are well below the acceptable threshold of 80%. And accuracy rates is kappas are also low, ranging from k .32 to .81, with only one category scoring in the "excellent" range (Reflection = .81), eight categories scoring in the "fair" range, and one category scoring in the "poor" range (Form Dimension = .32).

And at the segment level, two different methods of calculation yielded substantially different accuracy rates, namely 22,9% and 47,6%. The 47,6% rate obtained here by using Guarnaccia and al. (2001)'s method appears comparable to the 51% accuracy rate obtained by them in their sample of graduate students. On the other hand, the 22,9% accuracy rate obtained here by using Hilsenroth and al. (2007)'s method appears drastically different than the 78% accuracy rate obtained by them in their sample of graduate students.

Types of errors

Movement

35 of the 50 responses in the final protocols included movement scores by the criterion. As more than one movement score can be entered in a single response, criteria scoring included 42 movement scores. Table 4 presents the results for the errors of omission, commission and options for movement coding.

Of 588 entries expected for movement (42 cases x 14 participants), 174 (29,6%) were omitted, with 44,7% (80/174) of the omissions occurring on M scores, 28,5% (51/174) occurring on FM codes, and 26,8% (48/174) occurring on m codes. For M codes, the most prevalent sub-type of errors of omissions was not detecting "subtle" movements. Other frequent sub-types of errors of omissions were made on cases involving peculiar movements, emotion as a response

TABLE 4
Types and Rates of Errors in Movement Coding

ERRORS OF OMISSION **29,6 %** (174/588)	**ERRORS OF COMMISSION** **4,1%** (17/420)	**ERRORS OF OPTIONS – MOVEMENT TYPES** **8,9%** (36/409)
Human Movement – 44,7% (80/174) **Subtle movements** – 46,3% (37) Smile (20) Standing (11) Looking-seeing (10) Open mouth (6) **Peculiar movements** – 15,0% (12) Pretending to be chickens (9) Casting spell (3) **Preparatory states** – 8,8% (7) Ready to hit (7) **Emotions as a response** – 11,3% (9) **Unexplainable mistakes** – 6,1% (5) Animal Movement – 28,5% (51/174) **Subtle movements** – 86,3% (44) Open mouth (25) Laying (7) Floating (6) Hiding (5) Transforming in butterfly (1) **Unexplainable mistakes** – 13,7% (7) Inanimate Movement – 26,8% (48/174) **Subtle movements** – 25,0% (12) Wave crest falling (11) Dead man hanging (1) **Unexplainable mistakes** – 75,0% (36) Blood/water splashing (15) Hanging pendant and Flying pom-poms (7) Dirt thrown up (6) Light bursting (5) Cape flying (3)	Human Movement – 11,8% (2/17) **Unexplainable mistakes** (2) Animal Movement – 29,4% (5/17) **Descriptive elements erroneously identified as movement** – 40,0% (2) Cat wearing collar (2) **Movement verbalized in segment offered as context** – 60,0% (3) Chameleon, you know those things that change color and walk around (3) Inanimate Movement – 58,9% (10/17) **"Questionable cases"** – 90,0% (9) Knives embedded (also included: blood spilled) (5) Shadow spreading (3) Robes pulled (2) **Movement verbalized in segment offered as context** – 10,0% (1) Abstract of evil representing how humans pollute (1)	M miscoded as FM – 33,3% (12/36) **Human/Animal confusion** – 41,7% (5) Dracula flying (2) Animals smiling (3) **Unexplainable mistakes** – 58,3% (7) M miscoded as m – 19,4% (7/36) **Body parts** – 71,4% (5) Mouth open (3) Fist ready to hit (2) **Emotion as a response** – 28,6% (2) FM miscoded as M – 19,4% (7/36) **Unexplainable mistakes** (7) FM miscoded as m – 2,8% (1/36) **Unexplainable mistakes** (1) m miscoded as M – 25,0% (9/36) **Dead man hanging** (9)
		ERRORS OF OPTIONS – SUBSCRIPTS **16,7%** (67/409)
		Artistic representation – 14,9% (10/67) Incorrect a (10) **Misjudgment of level of energy** – 80,6% (54/67) Human Movement – 35,2% (19) Incorrect p (19) Animal Movement – 1,9% (1) Incorrect a (1) Inanimate Movement – 63,0% (34) Incorrect a (27), Incorrect p (7) **Erroneous double subscript** – 4,4% (3/67) Incorrect ap (3)

and preparatory states. A small portion of the errors appeared as unexplainable, as clear human movement was present (6,1%; 5/80). For FM codes, almost all errors of omission involved not detecting "subtle" movements, with a few unexplainable mistakes on cases of clear animal movement (13,7%; 7/51). For m codes, a small portion of the errors involved not detecting "subtle" movements. However, for the great majority of the errors (75,0%; 36/48), a clear case of inanimate movement was present but not detected. It is worth noting though that most (80,6%; 29/36) of these errors occurred on responses where another movement was implicated (FM or M) and the inanimate movement was secondary.

17 of the 420 entries for movement (4,1%) were commission errors, with 11,8% (2/17) of the commission errors involving M codes, 29,4% (5/17) involving FM codes, and 58,9% (10/17) involving m codes. On M codes, all of the errors of commission appeared unexplainable, as the cases did not include any verbalization suggestive of movement. On FM codes, errors of commission involved either descriptive elements that were erroneously identified as movement or movements verbalized in segments offered as context to a response. On m codes, most errors (90,0%; 9/10) occurred on three particular cases for which the criterion scoring can be considered "questionable" as presence of m could be argued, and on a complex response that included movement in a segment offered as context.

Of the 409 entries that were made by participants on cases warranting movement coding, errors of types of movements occurred on 36 entries (8,9%) and errors of subscripts occurred on 67 entries (16,7%).

For types of movement, errors occurred most often (52,7%; 19/36) when the appropriate coding would have been M, but students miscoded FM (33,3%; 12/36) or m (19,4%; 7/36)

instead. One sub-type of errors that was involved when FM was coded instead of M was cases of confusion in the animal/human nature of the object or movement. However, a significant portion (58,3%; 7/12) of the errors appeared unexplainable, as the movement was clearly human (perhaps erroneously adding an "F" for form in front of the M for movement). Two sub-types of errors were involved when m was coded instead of M, namely objects that were body parts, and emotion offered as a response. Much less errors (22,2%; 8/36) occurred when the appropriate coding was FM, and all errors in such cases appeared unexplainable. Only one type of error occurred when the appropriate coding was m (25,0%; 9/36), that is coding M instead of m for a dead human.

For subscripts, only one specific type of error could be identified, namely cases of artistic representations (14,9%; 10/67) which were miscoded a instead of p. Misjudgment of the level of energy appear to account for almost all other errors (80,6%; 54/67), which occurred most frequently for m codes (63,0%; 34/54), where all errors involved erroneously coding p instead of a, and for FM codes (35,2%; 19/34), where most errors involved erroneously coding a instead of p.

Color

20 of the 50 responses of the final protocols included Color scores by the criterion. Table 5 presents the results for the errors of omission, commission and options for Color coding.

Of 280 entries expected for Color (20 cases x 14 participants), 53 (18,9%) were omitted. Identifying sub-types of errors here was difficult, as all cases included very clear verbalization of color use. A common characteristic to most of the cases (60,4%; 32/53) was that they were complex answers involving multiple objects and multiple determinants, which could have

TABLE 5
Types and Rates of Errors in Color Coding

ERRORS OF OMISSION **18,9 %** (53/280)	**ERRORS OF COMMISSION** **8,9%** (22/247)	**ERRORS OF OPTIONS – FORM LEVELS** **44,9%** (101/225)
Colored object in complex response – 60,4% (32/53) Forest, white snowy road, red butterfly (5) Fountain, water, lit up with different colored lights (4) Ides of March, killers, knife, red represents blood (3) 10 other similar cases (20) **Small colored element of formed object** – 22.6% (12/53) Face of communist, pink hair (6) Dog, red nose (4) Face, red eyes (2) **Unexplainable mistakes** – 17,0% (9/53) Pink worms (5) Liver, all red (2) Chameleon in summer (2)	On achromatic cards – 77,3% (17/22) **Black-white-grey features miscoded as Chromatic Color** – 82,4% (14) Dracula, black cloak (3) Lake in forest, the white is the lake (4) Trees, different layers, the different colors (3) 4 other similar cases (4) **Unexplainable mistakes** – 17,7% (3) On chromatic cards – 22,7% (5/22) **Black-white-grey features miscoded as Chromatic Color** – 60,0% (3) Gandhi face, black eyes (3) **Unexplainable mistakes** – 40,0% (2) Woman on motor, dirt blown up (2)	FC miscoded as CF – 8,9% (9/101) **Small objects or parts of object** – 66,7% (6) Witches, red shoes, red hats (3) Face of communist, pink hair (3) **Emphasis on color** – 11,1% (1) Camelot in summer (1) **Formed object misjudged as formless** – 11,1% (1) Pink worms (1) **Formed object with formless objects** – 11,1% (1) Forest, white snowy road, red butterfly (1) CF miscoded as FC – 27,7% (28/101) **2 colored objects, one CF / one FC** – 100,0% (28) Orange birds, colorful tree green foliage pink top (11) Burlesque dancer, blue bra, green string, blue pom-poms (11) Pink panther, water is all the blue (7) CF miscoded as either FC or C – 29,7% (30/101) **C object with step-down principle** – 100,0% (30) Red blood on bears/cat (12) Wizard casting spells, all different colors (8) Chandelier, red light bursting out (7) Fountain, lit up with diff colors (4) C miscoded as either CF or FC – 28,7%(29/101) **Single formless object, reflected** – 41,4% (12) Liver, all red (12) **C object with no step-down principle** – 58,6% (17) Clowns, red decorations in background (10) Ides of March, red represents blood (7) **Entering a double Color code** – 5,0% (5/101)

resulted in oversights. But then, some errors also occurred on responses involving only one object. In some of these cases, color use pertained to only a small part of the object (22,6%; 12/36), perhaps contributing to oversights. Still, a remaining 17,0% (9/36) of the errors occurred on cases of single entirely colored objects, mistakes that were found to be unexplainable.

22 of the 247 entries for Color (8,9%) were commission errors. The first aspect that stood out here is that most of these errors (77,3%; 17/22) occurred on achromatic cards, where color use is simply impossible. For both achromatic and chromatic cards, a closer examination of the errors showed, expectedly, that most errors occurred when use of black-grey-white features of the card were miscoded as chromatic color (77,3%; 17/22). The remaining errors (22,7%; 5/17) occurred on responses that did not involve any verbalization that could be associated to achromatic color use, and were deemed unexplainable.

Of the 225 entries that were made by participants on cases warranting Color coding, errors of options (coding for color, but not choosing the right code between FC, CF and C) occurred on 101 entries (44,9%; 101/225), which is a significantly high rate. Errors of options in cases warranting FC codes were rare (8,9%; 9/101). As FC codes are usually attributed to colored form-specific objects, most errors occurred the form-specific quality of the objects was either misjudged or “downplayed” (because color was attributed to only a small part of the object, because other formless objects were also present in the response, or because color was more strongly emphasized than form for the object). Most errors of options occurred in cases warranting CF codes (57,4%; 58/101). Two case figures appeared involved here. First, in some instances, the errors were systematically to code FC instead of CF for all students that made a mistake. Such errors occurred in responses where there was at least one other colored object

that warranted a FC code (perhaps students retaining that code for the final coding instead of the CF code) (27,7%; 28/58). Second, in other instances, the errors went both ways, some students miscoding C or FC instead of CF. Such cases all involved the application of the step-down principle (perhaps students forgetting to apply it and code C, or erroneously applying it to downgrade the level of color to FC) (28,7%; 30/58). Errors of options on C codes were also frequent (28,7%; 29/101), and in all cases errors included miscoding CF or FC instead of C. Most of these errors occurred in cases where the step-down principle could have applied but didn't because the objects were not touching (58,6%; 17/29). Errors also occurred on a specific response involving pieces of liver reflected (perhaps students misjudging the form demand of the object or erroneously considering reflection as injecting form) (41,4%; 12/29).

Form Dimension

Eight of the 50 responses of the final protocols included form dimension scores by the criterion. Table 6 presents the results for the errors of omission and commission for form dimension coding.

Of 112 entries expected for Form Dimension (8 cases x 14 participants), 75 (70,0 %) were omitted, which is exceedingly high. Dimensionality warranting FD coding can take many forms, but all the responses that included FD in the final test protocols concerned either perspective or double planes, with 88,0% (66/75) of the errors occurring on cases of double planes.

Thirty-seven of the 75 entries for Form Dimension (49,3%) were commission errors, which is again exceedingly high. 86,4% (32/37) of the errors appear to concern two sub-types of errors in similar proportions, namely cases where there is Vista dimensionality that is erroneously

TABLE 6
Types and Rates of Errors in Form Dimension Coding

ERRORS OF OMISSION **70,0 %** (75/112)	**ERRORS OF COMMISSION** **49,3%** (37/75)
Perspective – 12,0% (9/75) Forest road, as you look further, it gets wider (4) Gorilla laying on back with feet out toward you (5) **2 planes overlapping** – 50,7% (38/75) Cat, blood gushing out from mouth in front of him (13) Jesus, light is behind him, huge shadow in front of him (11) Face, mouth open, tongue sticking out of his mouth (14)***** **2 planes not overlapping** – 37,3% (28/75) People chasing butterfly, butterfly closer, way out in front (8) Wizard casting spells, spells already cast out are in front of him (10) Clowns, red decorations in the background (10)	**Phenomena that involve dimensionality, but Vista** – 40,5% (15/37) **3D effect** – 73,3% (11) Lake in forest, looking down from great height, tops of trees not all same height (6)***** Jungle, different levels of trees, slopped island (2) Communist face, bumpy forehead (2) Deep ditch (1) **2 planes** – 26,7% (4) Birds back under tree, some leaves concealing them (4)***** **Phenomena that could involve dimensionality, but don't (improper verbalization for either Vista or FD)** – 45,9% (17/37) **Parts hidden** – 41,2% (7) Burlesque dancer, anonymous cause you can't see body (2) Animals, you can only see part, legs aren't showing (5) **Mouth open** – 5,9% (1) Dog face, mouth open, you can see his teeth (1) **Road running down** – 5,9% (1) Map, line runs down middle, highway (1) **Size** – 17,7% (3) Pink worms, giant, they're awfully big there (3) **Hunched over** – 5,9% (1) Woman on moto, hunched over (1) **2 planes** – 21,1% (4) Fountain, water sprays as it falls outward (2) Chandelier, light is bursting out in front (2)***** **Unexplainable mistakes** – 13,5% (5/37) Gandhi face, forehead looks chopped off (1) Bird with moose head (1) Butterfly (1) Fist ready to hit (1) Scars (1)

Note: * = Questionable cases for which FD coding could be argued as warranted

coded as FD dimensionality, and cases where there is no dimensionality but there the presence of a phenomenon that could have involved dimensionality if it had been verbalized otherwise.

The first sub-type implies that student correctly identified the presence of dimensionality, but simply miscoded it in Vista, a type of error that is more akin to "errors of options". The second sub-type of error implies that students erroneously conclude to dimensionality where there isn't, a "true" error of commission. It is interesting to note that such errors occurred on responses involving a wide range of phenomena, most frequently on cases mentioning hidden parts or size of objects. The remaining 13,5% (5/37) of the errors appeared "unexplainable", as no element in the responses seemed suggestive of dimensionality. It is interesting to note that three of the cases (identified in the table with the symbol *) where errors of commission occurred can be considered "questionable" and could be argued to warrant FD coding.

DISCUSSION

The main objective of this research was to study accuracy levels and types of errors in the scoring of Rorschach-CS determinants in a group of "low Rorschach-CS skilled" students that received a basic training in Rorschach-CS determinant scoring using the Workbook. The first specific objective was to quantify and compare levels of scoring accuracy for each determinant category. Results show low accuracy levels, with scores ranging from 20,5% to 67,0% (M = 39,8%) and from k .32 to k .81 at the determinant category level, and scores of 22,9% and 47,9% at the determinant segment level. The second specific objective was to identify and quantify types of errors for five selected determinant categories, namely Human Movement, Animal Movement, Inanimate Movement, Chromatic Color and Form Dimension. Errors

made by the students were analyzed and categorized, which yielded a list of all types of errors and their prevalence for the selected five determinant categories.

Scoring Accuracy

Segment Level Accuracy

The segment level accuracy rates obtained in this study are low, well below known acceptable levels and most published studies on Rorschach-CS accuracy. However, this was expectable as (1) the sample here was slightly less skilled and less motivated than typical samples, (2) the protocols to score were of higher difficulty than typical clinical protocols, and (3) the segment in question (determinants) is one of the most difficult to score and usually yields some of the lowest accuracy levels of all the segments.

First, participants here were undergraduates who had no prior knowledge of the Rorschach-CS, and registered for a completely optional workshop. “Usual” samples when measuring accuracy are graduate students or experienced clinicians, who can be thought to have more advanced psychological knowledge and a stronger motivation to master Rorschach-CS coding for application in research and clinical practice. It is worth noting however that the present sample had a high cumulative average, and since the workshop was optional, it is reasonable to assume that the students who completed it had a strong motivation for learning Rorschach-CS coding. It is therefore reasonable to assume that this sample probably differed only slightly from samples of graduate students. The training received by the students in this study also appears comparable to the training offered in other studies. It should be noted that although students in other studies received 25h (Guarnaccia et al., 2001) and 27h (Hilsenroth et al., 2007) of training on scoring, those hours of training were spread across all Rorschach-CS

scoring, and only part was devoted to the scoring of determinants. Hilsenroth and al. (2007) provide a detailed week-by-week description of their training program in a manual (Hilsenroth & Charnas, 2007), which shows that approximately 12h are reserved for determinant scoring. The workshop given here to students appears to mirror the portion devoted to determinant scoring in the training outlined in Hilsenroth and Charnas (2007), both in terms of hours devoted to determinant scoring (11h here; 12h in Hilsenroth et al., 2007) and in structure and processes (students reading material before class, material reviewed and commented in class, examples and counter-examples given to students, number of practice responses (M = 68,8 here; 64 in Hilsenroth et al., 2007), review of practice responses in class, transversal scoring, etc.).

Second, the final test protocols here were very highly difficult, probably much more difficult than the average clinical protocol and protocols used in other studies. Indeed, the protocols selected were classified in the Workbook as the most difficult, and described by Exner (2001) as “challenging to any rorschachers”. As the aim of the study was to capture all types of coding errors, the protocols were chosen precisely because of their high concentration of determinants and their inclusion of difficult cases for determinant scoring. Also, as explained earlier, judgments of agreement were kept here as strict as possible. And, of course, more difficult protocols corrected more severely result in lower accuracy rates than easier protocols corrected more clemently.

Third, as was discussed at the beginning of this article, determinants are known to be one of the “most difficult” segments to score, and accuracy levels for determinants are usually among the lowest of all segments. For example, for the clinical protocols in Hilsenroth and al. (2001) and in Guarnaccia and al. (2007), the Determinant segment obtained the second lowest

accuracy score (after Special Scores). In another study by Meyer and al. (2002) reporting on inter-rater reliability, it obtained the lowest.

Segment accuracy rates were calculated using both Guarnaccia and al. (2001)'s method and Hilsenroth and al. (2007)'s method, which yielded respectively accuracy rates of 47,6% and 22,9%. First, these rates are strikingly different from one another. But, second, the 47,6% rate obtained here by using Guarnaccia and al. (2001)'s method appears comparable to the 51% accuracy rate obtained by them in their sample of graduate students, while the 22,9% accuracy rate obtained here by using Hilsenroth and al. (2007)'s method appears drastically different than the 78% accuracy rate obtained by them in their sample of graduate students.

Overall, the segment accuracy rate of 47,6% found here using Guarnaccia and al. (2001)'s method appears coherent with the rates found by them for their samples of graduate students (51%) and clinicians (56%) scoring a clinical protocol. And as the sample of undergraduates used here was slightly less Rorschach-CS-skilled and less motivated than the usual samples of graduate students or clinicians, this rate of 47,6% appears sensible and in line with Guarnaccia and al. (2001)'s results.

But, more importantly, the present study serves to highlight how the method of calculation affects the accuracy scores obtained. Indeed, here, both methods were used on the same students' scorings, and the results from both methods of calculation are quite different. More precisely, the method used by Hilsenroth and al. (2001) and recommended by Meyer (1999) yielded substantially lower accuracy rates than the method used by Guarnaccia and al. (2001). This appears logical, as in Guarnaccia and al. (2001) agreement is judged on individual scores, while in Hilsenroth and al. (2007) agreement is judged on entire segment sequences. And as

was explained in the introduction of this article, the latter method is highly sensible to the number of blends in a protocol, and thus becomes less clement than the former as the number of blends increases.

What is surprising is that Hilsenroth and al. (2007), who used a more severe calculation method, actually found much higher accuracy rates (for example, 78% for the determinant segment) than Guarnaccia and al. (2001) (for example, 51% for the determinant segment) for their samples of students. In fact, the accuracy rates obtained by Hilsenroth and al. (2007) in their sample of graduate students were higher than even those obtained Guarnaccia and al. (2001) in their sample of experienced clinicians (for example, 56% for the determinant segment). If the results had been reversed (Hilsenroth et al., 2007 obtaining lower accuracy rates than Guarnaccia et al., 2001), then the differences in the calculation methods could be invoked to explain the differences in the results. But, rather, even with a more severe method of calculation, Hilsenroth and al. (2007) report much higher accuracy levels. Hilsenroth and al. (2007) commented on the differences between their results and those of Guarnaccia and al. (2001), and invoked mainly differences in the training provided to students. In their comparison between the two training formats, Hilsenroth and al. (2001) highlighted many similarities and few differences (e.g. informing students of the required 80% accuracy rate, reviewing various scoring examples in class, scoring in a "vertical" manner, etc."), differences that do not appear sufficient to explain the width of the gap in the accuracy rates between the two studies.

Rather, the differences in the accuracy rates of these two studies could be due to differences in the level of difficulty of the protocols, the level of difficulty being higher in the protocols used by Guarnaccia and al. (2001). Indeed, for example, in terms of number of determinants, the

clinical protocol in Guarnaccia and al. (2001) included an average 2,9 determinants per response, whereas the clinical protocol in Hilsenroth and al. (2001) included only an average 1,5 determinants per response, and therefore, much fewer blends. In light of the findings of this study, the method used by Guarnaccia and al. (2001) appears sounder, at least for calculating the accuracy rates pertaining to the determinant segment (or any segments where more than one code may be entered for one response, namely Determinants and Special Scores) as it gives a more precise measure of scoring accuracy and less sensible to the proportion of blends.

As discussed in the introduction of this article, the differences in the accuracy rates reported by the various studies on Rorschach-CS accuracy render it difficult to come to a conclusion concerning the accuracy of Rorschach-CS users. The segment accuracy rates obtained in this study appear more in line with Guarnaccia and al. (2001)'s results. But, more importantly, what this study shows is that variations in the calculation methods and in the difficulty levels of the protocols between studies contribute to the differences in accuracy rates found between studies, and a clarification and uniformization of the research practices in the field has to be achieved before a conclusion can be reached on the issue of the accuracy level of Rorschach-CS users.

Category Level Accuracy

Accuracy rates for individual determinant categories showed that the "easiest" determinant category to score appears to be Reflection, which is the only category obtaining acceptable accuracy levels. All other determinant categories obtained unacceptable levels of accuracy, but the "most difficult" to score were Shading-Vista and Form Dimension. As no other studies

have been found that published accuracy levels for determinant categories separately, there is no other "ranking" of the various determinant categories to which to compare these results.

The results are not however surprising. First, reflections are usually easy to identify and easy to score. Indeed, reflections are usually verbalized by literally mentioning that one object is reflected or the mirror image of another. And only two options of form level are available (instead of three), and the choice can be made in a single step by considering the response as a whole (instead of first considering each object individually, to then decide which code to retain in the final coding). Second, both of the "most difficult" categories involve dimensionality, and dimensionality is indeed difficult to grasp conceptually and to identify in responses, as it can take many very different forms and is often improperly verbalized by subjects.

Types of Errors

The first thing that stands out when looking at the types of errors for all determinant categories is that there was a substantial amount of "unexplainable mistakes", that is errors for which a careful examination of the responses involved revealed no potential source for the error. These "unexplainable mistakes" do not appear to reflect lack of comprehension of certain particular determinants, as such mistakes were found in all the determinant categories studied here and for various types of errors. Of course, most, if not all, of these mistakes could be simple oversights. As is well known, scoring a protocol is a tedious task, and even experienced coders will sometimes make errors of inattention. The greater amount of such mistakes here can be understandable, as participants were beginners with lower motivation.

In terms of the main types of errors, three points stand out. First, omission errors were more prevalent than commission errors on all three determinant categories, suggesting that students have difficulty detecting proper cases for a determinant and tend more to under-score determinants than to over-score them. This result is congruent with Exner (1988) where errors of omission are reported more prevalent than errors of commission for determinants. Second, errors of option are quite prevalent, in particular for Color coding, suggesting that even in cases where a determinant is properly detected, students have difficulties in choosing the correct exact score. Third, error rates for Form Dimension are extremely high, suggesting that students have particularly great difficulty in understanding and identifying dimensionality.

Results on subtypes of errors are particularly instructive, as they highlight specific types of cases that lend themselves to coding inaccuracies for each determinant category. Some of these results echo those described by Exner (1988), for example erroneously scoring m for descriptions of positionality with no unnatural tension state. But the systematic and detailed approach used here yielded a wider array of problematic cases, and quantified their relative frequency. A close look at all these results points to the main coding issues that appear to be important for each determinant category, which are summarized in table 7.

One can only wonder here to what extent weaknesses in the Workbook have contributed to the errors detected in this study. Indeed, the Workbook was the written source given to students in this study, and the oral presentations of the instructor were based on the Workbook, mirroring it in structure and depth. It is therefore very likely that the coding errors reported in this study could reflect some of the shortcomings in the coding information of that reference manual. For example, Form Dimension obtained extremely high error rates; and information in the Workbook on that topic is particularly scarce, with only a few lines of disorganized mentions.

TABLE 7

Main Coding Issues Identified for Each of the Selected Determinant Categories

Determinant Categories	Main Coding Issues
Movement (Human, Animal, Inanimate)	Distinguishing what is included and excluded from the movement realm, in particular in cases of: • Very "subtle" movements • Past movements • Descriptions of positionality • Movements verbalized in segments offered as context • Preparatory states • Emotion as a response
	Classifying the human/animal/inanimate nature of objects, in particular in cases of: • Fictitious characters • Humanized animals • Body parts • Dead living organisms • Emotion as a response
	Understanding the (not-absolute) association between type of object and type of movement, in particular in cases where the movement is inappropriate for the object
	Understanding the effect of "artistic representations" on movement coding, in particular for subscript coding
	Judging adequately the level of energy in a movement for selecting subscripts
Color (Chromatic)	Attributing color use to the right determinant category, in particular in cases of usage of white-black-grey features of the cards
	Detecting color use, in particular in cases of: • Complex multi-object responses • When only a small part of an object is in color
	Judging the form demand of objects
	Understanding the (not absolute) association between form demand and form level when deciding which color code to choose, in particular in cases of: • Emphasis on color in the response • Multiple colored objects • Colored form-specific object combined to other colorless formless objects • When only a small part of an object is in color
	Understanding the step-down principle, both in cases where it does apply and in cases where it does not apply
Form Dimension	Understanding the concept of dimensionality and how it translates into an array of phenomena in the Rorschach task
	Distinguishing between what is included and excluded in dimensionality, that is for all types of dimensionality phenomena individually
	Attributing dimensionality to Shading-Vista versus Form Dimension

Distinguishing between what is included and excluded from the realm of Movement appears to be an important coding issue leading to errors in Movement coding, and the Workbook offers only one mention on the topic of "postionality", with no other specified inclusions or exclusions. Body parts in motion was a type of response associated with errors in Movement coding; and it is not addressed anywhere in the Workbook.

Of course, some of the errors also occurred on types of cases that are well addressed in the Workbook. Such mistakes are more difficult to understand, as the information for accurate scoring is clearly available. Such instances may highlight processes belonging to the coders, for example a lack of attention in consulting the manual or an over-reliance on memorized information. But such instances could also reflect the lack of structure in the Workbook, making localizing pertinent information difficult and hindering its use as a consultation manual.

Conclusions

There are two main limits to the study. First, sample size was smaller (n = 14) than in other similar studies (21 and 29 graduate students in Guarnaccia et al. 2001 and Hilsenroth et al. 2007), but the number of responses scored in the test protocols was much higher (50, instead of 10 or 21 in the clinical protocols of Guarnaccia et al. 2001 and Hilsenroth et al. 2007) Second, as participants here were undergraduate students, it is unsure to what extent the results obtained here are generalizable to other types of sample, in particular if similar types and rates of errors would be found in samples of graduate students or experienced clinicians. Similar studies with different and larger samples should be undertaken.

The most important contribution of this study is to provide an "in-depth" look at determinant scoring inaccuracies, not only in terms of which determinant categories are scored less accurately than others, but in terms of specific types of errors occurring in the coding of particular determinant categories. Such information provides a better understanding of some of the coding issues that might underlie coding inaccuracies, and therefore highlights the coding issues that would warrant a more in-depth treatment in reference manuals and training programs in order to better scoring accuracy in Rorschach-CS coders.

In light of the coding issues identified in this study, a review of the coding information in the usual reference manuals for the Rorschach-CS (in particular, the Workbook) is recommended, and further studies of the effect of different sources of coding information on scoring accuracy is suggested.

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CHAPITRE 3 – DEUXIÈME ARTICLE : « Effect of A New Manual for Rorschach-CS Determinant Coding on Scoring Accuracy »

Effect of A New Manual for Rorschach-CS Determinant Coding on Scoring Accuracy

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Abstract. A previous study by the same authors (Doyon & Gagnon, 2014) showed low accuracy levels in a sample of undergraduate students trained in the Rorschach – Comprehensive System (CS) determinant scoring, and listed all types of coding errors and their relative frequencies. As some of these error types could reflect weaknesses in the standard reference manual for Rorschach-CS coding, namely the "Workbook", the present study conducted a critical review of the Workbook to identify its limitations, and a new manual for Rorschach-CS determinant scoring was drafted. The effect of this new manual on the scoring accuracy level of undergraduate students trained in Rorschach-CS determinant scoring was then measured, comparatively to the standard Workbook. Results showed that for determinant categories learned with in-class teaching, accuracy rates ranged from k .52 to k .75, and no significant differences were found between students using the standard manual and students using the new manual. But, for the determinant category learned without in-class teaching, accuracy rates were k .33 and k .58, respectively for students using the standard manual and students using the new manual, a difference that was found to be significant. Results in the "No Teaching" condition suggest the new manual produces significantly greater accuracy levels, and the absence of significant differences in the "With Teaching" condition is thought to have resulted from the in-class teaching, which was homogenous in both groups and mirrored the new manual in content and structure.

INTRODUCTION

The present study follows previous work by the authors (Doyon & Gagnon, 2014). In that study, the authors first highlighted both the importance and the understudy of scoring accuracy in the usage of the Rorschach - Comprehensive System (CS). Indeed, in the Rorschach-CS, validity of interpretation is heavily dependent on accuracy of scoring, as the very low base rates of many scores in the normative sample make slight over- or under-scoring prone to alter interpretative results.

As quality of scoring in Rorschach-CS studies is generally reported in terms of interrater reliability at the structural summary level, very few studies have actually reported on scoring accuracy at the response level, mainly three (Exner, 1988; Guarnaccia, Sabatino & Southwick, 2001; Hilsenroth, Charnas, Zodan & Streiner, 2007). Essentially, Exner (1988) reports accuracy levels ranging from 71,3% to 90,7% for “main errors” (many types of errors were deemed “secondary errors” and were not tabulated) in four scoring segments, and judges these results as troublesome. Guarnaccia and al. (2001) report accuracy levels ranging from 36,9% to 97,5%, with six of nine segments under the 80% threshold, and conclude to a major problem requiring certification for using the Rorschach-CS. And Hilsenroth and al. (2007) report accuracy levels ranging from 65% to 99% and from k .56 to k .98, with only two of nine segments under the “excellent” level, and conclude to a sufficient level of accuracy in Rorschach-CS users. Such studies yield a contradictory portrait of levels of scoring accuracy by graduate students and professional clinicians, with sometimes reports of very low accuracy levels.

In Doyon & Gagnon (2014), the authors contented that to improve scoring accuracy in Rorschach-CS users, more information was needed to identify the specific types of scoring errors that are commonly made, and studied such coding inaccuracies in a group of undergraduate students trained in the scoring of Rorschach-CS determinants. Results identified a great variety of specific types of errors for five determinant categories, namely Human Movement, Animal Movement, Inanimate Movement, Chromatic Color and Form Dimension.

For example, frequent errors in coding Movement included errors of omission for subtle movements (e.g. looking, floating, etc.), errors of commission for movements verbalized in segments offered as context (e.g. a chameleon, you know those things that change color and walk around), and miscoding FM instead of M for objects with both human and animal features (e.g. Dracula flying, animals smiling, etc.).

Frequent errors in coding Color included errors of omission for colored objects in a complex response (e.g. a forest, with a white snowy road, and a red butterfly), errors of commission for achromatic color features (e.g. Dracula in a black cloak), and miscoding either FC or C instead of CF for cases involving the step-down principle (e.g. red blood on bears).

And frequent errors in coding Form Dimension included errors of omission for overlapping planes (e.g. a cat with blood gushing out from its mouth in front of him), errors of commission for objects with parts missing (e.g. animals, you can only see parts of them, the legs aren't showing) and miscoding FD instead of Vista for answers where shading was involved in the dimensionality effect.

The authors suggested that some of these scoring inaccuracies could be associated with some "weaknesses" in the main reference manual generally used by Rorschach-CS coders, namely

the “Workbook”. The authors concluded by recommending that a review of the Workbook could be profitable, and that the effect of new “better quality” reference materials on scoring accuracy should be tested. These recommendations are the object of the present study.

The Workbook as the Main Reference Manual

The Rorschach-CS text most commonly used as a reference manual for coding is certainly *A Rorschach Workbook for the Comprehensive System* (Exner, 2001), generally referred to simply as the “Workbook”. However, the quality of the Workbook as a reference manual for CS scoring does not appear optimal for scoring accuracy.

First, scoring information in the Workbook is limited. For example, of the 64 pages pertaining to scoring, there are only 16 pages devoted to all of the 11 determinants. This appears insufficient given the complexity of determinant scoring. Some determinants are barely mentioned, for example the FD score which is addressed in only 15 lines, and the Cn score which is briefly described in an introductory table but is not addressed in further details anywhere in the text.

Second, the information that is present often lacks in clarity. Segments are sometimes ambiguous, leaving the reader with unanswered questions and difficulty in applying coding. For example, in general, the section on Chromatic Color coding insists on how various objects can warrant either C, CF or FC codes, and provides very little guidelines that would help the reader get a sense of the most probable coding for certain cases or the most common cases for certain codes. The text puts much more emphasis on rare examples that show how the same object can warrant different codes, and very little emphasis on the typical case figures for each of the three cases which would help get a clearer picture of the delimitations between the three

codes. As a more specific example, the text discusses cases where a C code is changed to a CF code because “a modest form requirement is injected by the subject” (p. 38). The text then gives the following examples, where the italicized wording “makes each of these CF responses even though form use is minimal”: “that red looks like blood *running down*”, “wow, look at all the colors, like fireworks exploding *outward*”, and “the pink reminds me of strawberry ice cream, *two scoops*”. First, the segment uses both the wording of “form requirement” and of “form use”, without clearly distinguishing the two. The reader will most likely conclude that wording such as seen in the examples leads to change both the C coding to a CF doing and a DQv or v/+ coding to a DQo or + coding (which would be correct for the former, but incorrect for the latter!). Second, in the first two examples, it is unclear how exactly the italicized wording “injects form demand / form use”, especially since the italicized wording includes the verb in one example but not in the other. The reader will wonder if the “injected form demand / form use” in such examples is due to the mere presence of such verbs or to their combination with the adverbs, or if it is due to en effect of “directionality” implicit in such expressions. Ambiguous segments such as this create confusion for the coder, and forces to extrapolate from the text, with the risk of opting for a wrong direction of thought that will lead to scoring inaccuracies.

Third, overall, the text lacks structure. Indeed, the information is mostly presented in a continuous text, with various “topics” being addressed one after the other without clear headlines or indicators. And the little structure that is present is sometimes confusing. As an example, the section on Chromatic Color coding starts with a sub-section entitled “CF”, followed by a sub-section entitled “FC”. But no sub-sections entitled “C” or “Cn” are to be found. And cases involving “formless objects that are coded FC” are addressed in the first sub-

section, a topic repeated again in the second sub-section. The jumbled quality to the structure of the text not only hinders its easy consultation, it also does not translate into a systematic approach to scoring for the reader.

Fourth, the Workbook does provide 300 responses for practice coding, ordered in levels of difficulty. However, the correction key for such exercises simply states the correct coding, without any explanation. This lack of elaboration seriously limits the usefulness of the exercises, as the coder who has chosen a different code may not understand either the correct code or the mistake made. One observation that is particularly troublesome is that the correction key for some of the practice exercises appears to directly contradict the coding information presented in the text. For example, many objects that are given as examples of "formless" objects (such as flowers, leaves, etc.) are actually always considered "form-specific" objects in applied coding, a misleading information that may underlie many errors in the coding of any determinant that implies judging the form level of the object (namely, Colors, Shadings and Reflection).

In conclusion, as stated in the previous article (Doyon & Gagnon, 2014), Rorschach-CS users attempting to code personal protocols, or even the coding exercises contained in the Workbook itself, are quickly confronted to numerous questions or case figures that are not addressed. Extrapolating from the available information is often necessary, leading to the development of a "personal" understanding of Rorschach-CS scoring. Moreover, the jumbled continuous text renders it very difficult to isolate and localise specific information for consultation, and, most importantly, it also does not translate in a systematic structured method to approach scoring. Such shortcomings of the Workbook can only contribute to inaccuracies in coding, both for beginners and experienced rorschachers.

It is interesting to note that although the Workbook presents some evident shortcomings, no critical review of its content can be found in the literature. It is worth noting here that Rorschach Training Programs have announced that a new Workbook is in the works, but is not yet available.

Comparison to Other Rorschach Scoring Manuals

Other Rorschach scoring manuals exist, for the Rorschach-CS or other systems. For the Rorschach-CS, *The Rorschach : A Comprehensive System; Volume 1 : Basic Foundations and Principles of Interpretation, 4th edition* (Exner, 2003), commonly referred to as "*TRACS-1*", can also be used as a reference for coding. It contains mostly the same information as the Workbook, with a few added mentions. But as it is heavier and cumbersome, the handier Workbook is generally preferred.

Viglione (2002) also published the *Rorschach Coding Solutions: A Reference Guide for the Comprehensive System*. This manual addresses at length and in great detail the various scoring issues in Rorschach-CS coding, and is best suited for coders already knowledgeable in Rorschach-CS coding. It totals 350 pages, all of it pertaining to scoring, with 72 pages devoted to the scoring of determinants. This manual possesses many desirable qualities that should be emulated in reference manuals. First, it offers a great depth of information, addressing an impressive number of case figures in great detail. The fact that 350 pages are devoted here to scoring surely highlights how the 64 pages of the Workbook appear limited. On the other hand, the amount of information included is perhaps too great to be a manageable reference source for Rorschach-CS beginners. The text is also highly structured, making it easy to locate and isolate specific topics. In many instances, it also offers a systematic approach for thinking

about certain scores and arriving at a decision between related scores. One shortcoming of this book is that it does not include practice coding exercises. And one possible downfall is also the question of its level of coherence to criterion Rorschach-CS coding. Indeed, although it states such coherence, its very detailed approach appears to lead to a less conservative inquiry and scoring than the Workbook and TRACS.

On other Rorschach systems, DeCato (1984) published *Rorschach Scoring: a Workbook for the Perceptanalytic System*. Even if this system is substantially different than the Rorschach-CS, it does include some of the same scoring categories, in particular determinants, to which 30 pages are devoted. This manual is interesting in that it is not much more voluminous than the Workbook, but it presents a structure that renders the information much clearer and much easier to locate. Instead of a continuous text, information is visually segmented using different margin sizes, fonts, and point-lists. For each determinant, it starts with a clear presentation of the determinant and the main conceptual considerations and case figures involved. Topics that need to be further addressed are detailed further in text segments. It also includes scoring exercises, more precisely 252 responses. But as in the Workbook, the correction key only states the correct scoring without any explanation.

Also, for the very recently developed new R-PAS system, Meyer, Viglione, Mihura, Erard, & Erdberg (2011) published the *Rorschach Performance Assessment System: Administration, Coding, Interpretation, and Technical Manual.* This impressive 534 pages manual contains 122 pages pertaining to scoring, with only 17 pages devoted to determinants. The determinants in this system are basically the same as in the Rorschach-CS, with the exception that Achromatic Color and the three types of Shadings only have one code (there are no variations based on the levels of form). At first glance, this manual resembles the Workbook, presenting

a continuous text with a few italicized or bold words or phrases that stand out. However, the content of the text appears more detailed than in the Workbook, and includes both systematic decision guides for certain scores and numerous illustrative examples and counter-examples. This manual also offers practice coding exercises. The number of practice responses is small (100) but one major advantage over the other manuals is that here the correction key offers the "coding rationale" to enlighten the reader on the proper reasoning behind the accurate coding.

The Teaching of the Rorschach-CS Scoring System

As the Rorschach is a highly complex test, in particular its scoring, its teaching has often been discussed in the literature (e.g. DeCato, 1984, 1994; Ritzler & Alter, 1986; Hilsenroth & Handler, 1995; Silverstein, 1996; Weiner, 1998; Brabender, 1998; Mihura & Weinle, 2002; Hilsenroth & Charnas, 2007; Curry & Hanson, 2010). Many of these publications are surveys of how the Rorschach-CS is taught (mainly in graduate psychology programs) or on the experiences of the students themselves. However, but some publications do offer interesting pointers on various teaching techniques that appeared helpful to the authors in teaching the very complex Rorschach-CS.

The teaching of the Rorschach-CS usually follows its inherent basic sequence, that is teaching administration first, scoring second, and interpretation third. However, rigid divisions between these three topics are impossible to achieve. Administration of the test requires some knowledge of its scoring, in particular the scoring of determinants, as scoring issues are the purpose of inquiries. It also can be helpful to intertwine notions of interpretation with the teaching of scoring, as learning scoring is very tedious and understanding its value in the interpretation of the test can motivate students in their learning of its scoring. Barbender

(1998), on the other hand, argues against such "mixing" of interpretation and scoring, as it leads students to judge scoring with these interpretative notions in mind instead of applying the rigorous scoring rules.

As for the teaching of the scoring itself, it usually follows the sequence of the scores themselves into the nine grand segments of scoring (Location, Developmental Quality, Determinants, etc.). In this part, Weiner (1998) emphasizes the importance of elucidating to students the conceptual basis for the coding scheme, as it helps students to better grasp what to look for in applying scoring.

In the teaching of the scoring, Brabender (1998) suggests that are two main approaches: one that relies mainly on scoring exercises, with the theory being explained as the exercises are reviewed in class; and one that starts with a lecture portion that presents the theory for all scores, followed with a second portion in which scoring is applied in exercises. Brabender (1998) contends that the second two-part method is preferable, in particular for longer courses (at least a semester), while the first method might be better suited for shorter workshops. Having first a lecture portion is thought to have many beneficial effects: allowing to discuss scoring principles that have implications in many scoring segments, allowing students to take in information without feeling "tested" (as is the case when doing scoring exercises, since students compare their responses to the correction key), allowing students to have some "baggage" before being confronted to the scoring itself, and providing some welcomed repetitions of the coding principles in both phases.

It has to be underlined here that in the training structures described above, the scoring is generally applied "horizontally", that is students have to score all scoring segments at once for

each response. Hilsenroth and Charnas (2007) have proposed an alternative teaching structure based on a progressive "vertical" approach, in which students learn and practice one determinant segment at a time, and score only one scoring segment at a time for all responses (for example, scoring all responses for Location first, then scoring all these responses for Developmental Quality second, and then for Determinants third, etc.). Hilsenroth and Charnas (2007) contend that this "vertical" approach is highly efficient at producing high interrater reliability rates between coders trained with this method.

In terms of specific teaching techniques, many authors emphasize the importance of providing examples AND counter-examples whenever pertinent, as counter-examples often provide more clarity for students than theoretical explanations of a coding issue, and are more easily remembered by them (Weiner, 1998; Brabender, 1998; Hilsenroth et al., 2007).

Brabender (1998) also underlines the inherent anxiety that students feel when learning the Rorschach-CS, especially the highly complex scoring. Careful attention should be put to lessen or contain this anxiety in students, for example by explaining at the beginning of the training that full mastery of the Rorschach-CS should not be expected at the end of the course and by distinguishing less impactful errors from other more "serious" errors.

Current Study / Objectives

The main objective of this study was to developed a new "higher quality" reference source for Rorschach-CS determinant coding, and verify if such "improvements" in the coding information would lead to better scoring accuracy.

The first specific objective was to do a critical review of the coding information offered in the Workbook and develop new reference material for Rorschach-CS determinant coding that

redressed the shortcomings identified in the Workbook. As mentioned earlier, no reviews of the Workbook were found in the literature, but an overview of the Workbook and the various reference manuals that exist for the Rorschach suggest that scoring information in the Workbook lacks in depth, clarity and structure, and that some of the applied coding examples found in Exner texts might be incongruent with the information presented in text.

The second specific objective was to test and compare the effect of this new reference material versus the Workbook on scoring accuracy in a group of students receiving training in Rorschach-CS determinant coding. As the new reference material was drafted to redress shortcomings identified in the Workbook, it was expected to yield better scoring accuracy than the Workbook. As both groups would receive the same in-class teaching by the same instructor, the effect that this teaching would have on accuracy levels was unknown. In order to isolate the effect of the quality of the manuals from the effect of the teaching, students were asked to learn one determinant category without any in-class teaching, therefore relying solely on their manuals.

METHODS

Part 1: Development of New Manual

A new manual was developed for the scoring of Rorschach-CS determinants, more specifically for the scoring of six determinants in particular: Human Movement, Animal Movement, Inanimate Movement, Chromatic Color, Form Dimension, and Form. Mainly, the new manual concentrated on these determinants, because this study builds up on previous work by the same authors (Doyon & Gagnon, 2014) where they studied scoring accuracy and types of errors on these determinants. First, all three categories of Movement (Human, Animal and

Inanimate) were chosen, because Movement determinants are highly frequent and their scoring relies on a complex set of principles that differs from those that govern the scoring of the other determinants. Then, of the remainder of the determinant categories, many shared one feature: varying levels of form. Of these determinant categories, one was selected, namely Chromatic Color as it is most frequent, and its scoring involves many figure cases not found in most other determinant categories (e.g. color convergence, step-down principle, etc.). And, at last, as the scoring of dimensionality presents its own particularities, of the two determinant categories pertaining to dimensionality (Shading-Vista and Form Dimension), one was chosen, namely Form Dimension. And, as many of the scoring principles involved in these five determinant categories do generalize to other determinant categories, they were considered an appropriately representative sample for the study of determinant scoring errors. The new manual also included the scoring of the Form determinant, as it is the default scoring when no other determinants apply.

Review of Applied Coding. First, a repertoire of all coding examples found in the Workbook and TRACS was compiled, for a total of 668 coded responses. As these examples of applied coding come directly from main Exner texts, their coding can be assumed to be "Rorschach-CS-accurate". These "criterion-scored" examples were carefully studied to extract all the coding principles that seemed implicated in the scoring of the selected determinants. Pertinent examples and counter-examples for each coding principle were culled, and incongruent coding cases were noted.

Review of Coding Theory. Second, the text portions from the Workbook pertaining to each selected determinant were carefully reviewed in light of the coding principles extracted from

the applied coding. Pitfalls in the texts (erroneous, inconsistent, misleading, incomplete, absent information) were identified.

Drafting of a New Manual. Then, based on (1) the coding issues identified in the previous study, (2) the review of strengths and weaknesses of the various coding reference manuals presented in the introduction of this article, and (3) the coding principles extracted from 668 responses compiled and the pitfalls identified in the text of the Workbook in this study, a new manual was drafted that attempts to redress these problems.

As an illustration of the analytic process in play in the development of the manual, part of the elaboration of the Color coding principles is detailed here.

First, responses containing a Color score were culled, disregarding the various score options (FC, CF, C, Cn). They were first scrutinized to determine the verbalizations that seemed to warrant Color scores. The first observation was that they all contained some wording referring to color, from very specific colors being named to more general references to coloring (e.g. “colourful”, “the pastels”). Here, it was also observed that a small number of responses included multiple color verbalizations for one or more objects. As such complex answers render less clear the link between elements of verbalizations and the color codes assigned, they were put aside, to be studied later in the analysis. All verbalizations that clearly led to a Color score were listed, and organized in groups based on similarity. Then, all the remaining responses that did not contain a Color score were scanned again to cull any counter-examples, that is responses that included color wordings even in the absence of a Color score. The second observation here was that the same types of color wordings appeared in both sub-sets of responses (from specific colors being named to more general references to coloring). The

two sub-sets were then studied comparatively to identify what differentiated them. The third observation here was that color verbalizations seemed to serve four different functions: (1) color verbalizations that attribute color to an object (e.g. “a red hat”, in which the hat is red), (2) color verbalizations that are used to identify the location of an object (e.g. “the red is the hat”, in which the hat is not red), (3) color verbalizations that make the “color element” represent in abstraction the object of the response, generally an emotion (e.g. “all the colors, it’s like happiness”, in which happiness is the object of the responses, represented by the color element), and (4) color verbalizations that make the “color element” itself the object of the response (e.g. “it’s blue, a beautiful pastel blue”, in which the blue is the actual object of the response). All examples and counter-examples were then grouped according to these four types of verbalizations. The particularities in the color wordings for each type could then be further defined (for example, in the first type, the color is generally used as an adjective, “a red hat”, while in the second type, the color is generally used as a noun, “the red is the hat”, etc.). Here, a fourth observation was made: all examples of the first, third and fourth types had a Color score, while only examples of the second type included both responses that had a Color score and responses that did not. The examples of the second type of verbalizations were then further studied to identify what differentiated them. Here, a series of coding principles were extracted: (1) In general, color verbalizations that are used to identify the location of an object are not sufficient to warrant a Color score (e.g. “the red is the hat” = No Color score). (2) However, there are certain exceptions to this rule, namely: such responses can warrant a Color score if (a) the object is a “formless” one and (b) the color mentioned in the verbalization is the usual sole or main color of the object (e.g. “this red here is blood” = Color score).

Such analytic process was then extended to other particularities of Color scoring, for example principles that guide the choice of the "level of form" to attribute with a Color score (FC, CF, C), principles that guide the choice of final Color score in responses with multiple objects involving color, principle that pertain to rare "exceptional" figure cases such as "emotions/sensations as a response" or "color naming as a response'.

And a similar analytic process was applied to each determinant category under study here, namely Color, all Movement types, Form Dimension, as well as the "by default" Form "as the sole determinant".

The analytical process was pursued until a set of coding principles could be extracted that would yield *without fault* the exact correct scoring when applied to all of the 668 responses present in the Workbook and TRACS-1. And it also allowed to gather systematically a great amount of information for the various notions studied, yielding more precise, complete and refined coding information for the new manual (e.g. exhaustive lists of verbalizations, comparative sets of examples and counter-examples, redefinition of some confusing notions such as "cases of color convergence", etc.).

Part 2: Study of Effect of New Manual on Coding Accuracy

Participants

Participants were undergraduate students enrolled in a psychology class at a large metropolitan university, who showed interest in attending a workshop on the administration, scoring and interpretation of the Rorschach-CS. Students had to chose between two offered schedules for the workshops, thus forming two groups (referred to as "group B" and "group C"). As

students' individual schedules vary, and one schedule for the workshop was in the evening, and the other during the day, participants were not randomly assigned to each group.

A total of 75 students completed the workshops, 45 in group B and 30 in group C.

The 45 students in group B were 11 men and 34 women ranging in age from 19 to 29 years old (M = 21,84). Most of them (86,7%) were full-time students in a psychology program, with a mean number of 32,4/90 credits accumulated and a mean cumulative average of 3,69/4,3. They had no prior experience with the Rorschach-CS. At the beginning of the workshop, they rated their motivation level as very high (M = 6,23/7,00).

The 30 students in group C were 2 men and 28 women ranging in age from 19 to 41 years old (M = 21,79). Most of them (85,7%) were full-time students in a psychology program, with a mean number of 31,8/90 credits accumulated and a mean cumulative average of 3,80/4,3. They had no prior experience with the Rorschach-CS. At the beginning of the workshop, they rated their motivation level as very high (M = 6,03/7,00).

T-tests showed that that the two groups did not differ significantly on any of the socio-demographic variables mentioned.

There were 34 other students (representing 31,2% of students originally interested in the workshops), 28 women and 6 men, who also started the workshop but withdrew before the end. T-tests showed that they did not differ significantly from the students who completed the workshop in age (ranging from 19 to 32 years old; M = 21,77), student status (most - 85,3% - were full-time students in a psychology program), number of credits accumulated (M = 32,62/90), cumulative average (M = 3,65/4,3), and motivation level reported at the beginning of the workshop (M = 6,00/7,00).

The instructor was female, a clinical psychologist and teacher, with extensive experience in the usage and teaching of the Rorschach-CS.

Materials and Procedures

Participants were recruited via an email invitation sent to all undergraduate students registered in a psychology class. Two Rorschach-CS workshops were offered, one on an evening schedule and the other on an afternoon schedule, both for duration of seven weeks. Interested parties contacted the research team and were invited to register on the workshop website and attend the first session of their workshop of choice.

A General Information Questionnaire (GIQ) was made available on the website to be filled and brought to the first session. The GIQ included questions on socio-demographic variables, previous experience in psychology, and motivation type and level for the workshop. Motivation level was evaluated with a 7-point likert scale (with 1 signifying "not at all motivated" and 7 signifying "extremely motivated"). At the beginning of that first meeting, information was given on the research project and on the involvement required in the workshop, and interested participants signed a consent form.

The workshops consisted of seven weekly sessions, each with a duration of 2h30 to 3h, for a total of approximately 20h. One session was devoted to administration (week 1), four and a half sessions were devoted to scoring (weeks 2 to 6), and one and a half sessions was devoted to interpretation (weeks 6 and 7).

Basic course material in both groups included written documents made by the instructor, namely summaries of Rorschach-CS texts (Exner, 2001, 2003) on administration, scoring and interpretation. For coding, Group B was provided with integral excerpts of the Workbook

(Exner, 2001), namely sections on the scoring of Form, Color and Movement determinants (p.34-40), while group C received a copy of the new manual written by the author on the scoring of Form, Color and Movement determinants.

In both groups, teaching of determinants scoring was split across four and a half sessions, and an "in-depth" approach was used for the study of selected determinant categories, with two sessions focusing on Color coding, two sessions focusing on Movement coding, and the last 0,5 session offering an overview of all coding categories. The two sessions devoted to a specific determinant category were organized as follows. Before the first session, students were asked to read beforehand the pertinent written material. In class, the instructor gave an oral presentation on the scoring of the determinants under study, and such presentations were based on the content of the new manual, mirroring it in structure and depth. Indeed, the instructor was also the author of the new manual. And the manual reflects the instructor's personal knowledge of Rorschach-CS determinant scoring, which of course is also reflected in her in-class teaching. After that first session, at home, students had to score the studied determinant on a first protocol, and they had to hand in their scoring at the beginning of the next session. The scoring of this protocol was then reviewed and discussed at the beginning of the next session, with the instructor providing and explaining the correct scoring, and answering all students' questions. The material for the scoring of the studied determinant was then reviewed and discussed in class a second time. Again, at home, students scored the determinant on a second protocol, and handed in their scoring at the next session. And the scoring of this protocol was also reviewed at the beginning of the next session, before moving on to the next topic of the workshop. In total, four practice protocols were provided to students, two for Color and two for Movement, each containing 20 responses.

After all sessions on Color and Movement coding were completed, at session 6, students were asked to score these determinants on a final test protocol of 30 responses, and fill out an appreciation questionnaire on the teaching they had received and the manual they had used. As both groups would receive the same in-class teaching by the same instructor, who is also the author of the new manual, these questionnaires were put in place to prevent and document a possible bias by the instructor in favor of the group using the new manual. The Teaching Evaluation Questionnaire (Teaching EQ) and the Manual Evaluation Questionnaire (Manual EQ) consisted of, respectively, 15 and 20 items to be scored on a 4-point scale (from 1 to 4).

As was mentioned earlier, in order to isolate the effect of the quality of the manuals from the possible effect of the in-class teaching, a "No Teaching" condition was also put in place. Students were therefore also provided with additional material for the scoring of the Form Dimension determinant. Selected randomly, half of the students of each group received the Form Dimension section from the Workbook (p.43-44), and the other half received the Form Dimension chapter for the new manual written by the author. No teaching of that determinant was offered. Students had to read their text at home, score a protocol of 20 responses for Form Dimension, and fill out again a Manual EQ for the text they had used for Form Dimension scoring. The two tests protocols (one for Color and Movement, and one for Form Dimension) and the three appreciation questionnaires were to be handed in at the beginning of the last session.

To insure that the criterion-scored protocols used in the workshop were cohesive with the reference manuals used by students for scoring (Workbook and new manual), scoring protocols were constructed from scored examples found directly in Exner texts, namely the Workbook (Exner, 2001) and the TRACS (Exner, 2003; Exner & Erdberg, 2005). The

Workbook contains scored coding exercises, more precisely 300 responses divided in sections, resulting in 13 protocols of 15 to 25 responses. The TRACS contain numerous scored clinical protocols, namely 16 protocols of 14 to 29 responses. From a repertoire of all scored examples available in the Workbook and TRACS, examples pertaining to the coding of the selected determinants were extracted and classified according to the coding issues involved in their coding. Examples from each coding issue were then randomly selected for each protocol, insuring that all coding issues would be represented in each protocol.

As responses in the final test protocols were chosen for their coding issues, the protocols are highly concentrated on each determinant category, and the resulting difficulty level of the protocols used here is therefore estimated to be very high.

Statistical Analyses

Scoring Accuracy

Meyer (1999; Meyer et al., 2002) has suggested that while analysis at the structural summary level might be more appropriate for studies of applied reliability of the Rorschach-CS for research and practice, the response level (individual scores) is the appropriate level for "stringent" studies of scoring quality. Also according to Meyer (2002), the appropriate statistic for analysis of the quantitative data at the structural summary level is the Intra-Class Coefficient (ICC), while the appropriate statistic for analysis at the qualitative response level (individual scores) is the kappa (k). In accordance, in previous Rorschach-CS scoring accuracy studies, the level of analysis has been at the response level (generally scoring segments) and the statistics used were generally percentages of agreement and kappas.

As the aim of this study was to conduct a stringent analysis of determinant scoring, accuracy scores were calculated at the response level, more precisely here at the determinant category level for the five selected determinant categories (e.g. agreement on all score options for Human Movement across the 50 responses; agreement on all score options for Animal Movement across the 50 responses; etc.), using kappas. As the scoring of all determinant categories was not involved in the final test protocols, accuracy scores at the determinant segment level could not be calculated. Table 1 presents the entry choices that were used to tabulate the determinant scores for each of the five selected determinant categories.

TABLE 1

Entry Choices for the Five Selected Determinant Categories

Determinant Categories	Entry Choices	
	Valid	Invalid*
Human Movement	Ma, Mp, Map, no M	Mx
Animal Movement	FMa, FMp, FMap, no FM	FMx
Inanimate Movement	ma, mp, map, no m	mx
Color (chromatic)	C, CF, FC, Cn, no C	Cx
Form Dimension	FD, no FD	FDx

* The invalid entry for each category was used whenever a student gave an erroneous score, for example scoring the same determinant category twice in a response, or scoring a movement with no subscript.

For each student, scoring was compared to the criterion scoring, and as suggested in the literature (Meyer, 1999), accuracy scores at the determinant category level were calculated in kappa. Norms for interpreting kappa scores are as follows : < 0.40 = *poor*, 0.40–0.59 = *fair*, 0.60–0.74 = *good*, > 0.74 = *excellent* (Shrout & Fleiss, 1979). Cicchetti (1994) more recently offered slightly modified norms for the upper ranges, namely : < 0.40 = *poor*, 0.40–0.59 = *fair*,

0.60 to 0.74/0.79 = *good*, > 0.75/0.80 = *excellent*, and > 0.80 = *nearly prefect*. The more recent norms by Cichetti (1994) were used in this study.

Evaluation Questionnaires - EQ

Data from the Teaching EQs and the Manual EQs were tabulated and the mean (on 4,00) for each group was calculated.

RESULTS

Part 1: Development of New Manual

The new manual drafted is a 60-page color document entitled "Rorschach-CS Determinant Coding". It contains an introductory chapter on Basic Determinant Coding, which introduces the notion of determinants and presents all of the determinant categories. Four chapters on specific determinant categories follow, namely chapters on Form, Color (chromatic), Movement (Human, Animal, Inanimate), and Form Dimension.

Each of these chapters follows a basic three-part structure, with sections on (1) the verbalisation of the determinant, (2) the coding of the determinant at the object-level, and (3) the coding of the determinant at the response-level. The text structure not only provides organisation to the material, it is also translate into a systematic approach to coding decisions.

The first section on the verbalisation of the determinant not only provides a clear presentation of the determinant and the types of verbalisations needed to warrant coding of that determinant, but it also clearly presents "close cases" that do not warrant the coding. Therefore, the first section informs the coder on what is included vs excluded from the realm of a particular determinant category. Then, the various choices of scores are presented, and the

coding principles involved are stated and explained in an orderly sequence, first at the object-level (choosing the correct score for each individual object in a response), and then at the response-level (choosing which score to retain in the final coding when more than one individual objects in a response have warranted a score for the same determinant category). The text content is illustrated by numerous examples and counter-examples, which clearly stand out from the text by using different fonts and colors.

Also, whenever judged necessary or useful, inserts on other scoring issues are presented (for example, an insert on Developmental Quality is presented before coding principles on the evaluation of form levels are introduced in the Color chapter; an insert on Types of Objects is presented before coding principles on types of movements are introduced in the Movement chapter, etc.). Colored highlights for section titles, bold and/or colored fonts for important points in the text, and a point-list format and italic colored font for all illustrative examples make the text highly structured and easy to consult. For ease-of-use, colored stand-out quick reference tabs are also distributed throughout the chapters, highlighting important coding principles and cautionary remarks.

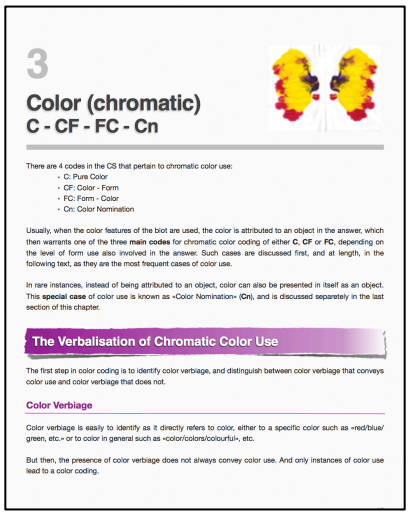
Practice scoring protocols are provided at the end of each chapter, with a fully explanatory coding key.

Excerpts from the manual are presented in Figure 1, and the complete manual is available by contacting the first author of this article.[1]

[1] Le manuel intitulé « Rorschach-CS Determinant Coding » est présenté dans son entièreté dans le chapitre 4 de cette thèse.

FIGURE 1

Excerpts from the New Manual



3

Color (chromatic)
C - CF - FC - Cn

There are 4 codes in the CS that pertain to chromatic color use:
- C: Pure Color
- CF: Color - Form
- FC: Form - Color
- Cn: Color Nomination

Usually, when the color features of the blot are used, the color is attributed to an object in the answer, which then warrants one of the three **main codes** for chromatic color coding of either **C**, **CF** or **FC**, depending on the level of form use also involved in the answer. Such cases are discussed first, and at length, in the following text, as they are the most frequent cases of color use.

In rare instances, instead of being attributed to an object, color can also be presented in itself as an object. This **special case** of color use is known as «Color Nomination» **(Cn)**, and is discussed separately in the last section of this chapter.

The Verbalisation of Chromatic Color Use

The first step in color coding is to identify color verbiage, and distinguish between color verbiage that conveys color use and color verbiage that does not.

Color Verbiage

Color verbiage is easily to identify as it directly refers to color, either to a specific color such as «red/blue/green, etc.» or to color in general such as «color/colors/colourful», etc.

But then, the presence of color verbiage does not always convey color use. And only instances of color use lead to a color coding.

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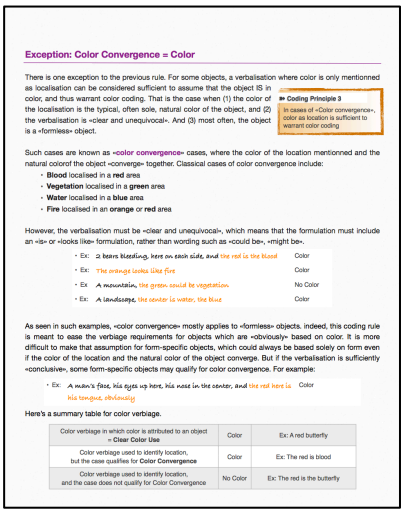

Exception: Color Convergence = Color

There is one exception to the previous rule. For some objects, a verbalisation where color is only mentioned as localisation can be considered sufficient to assume that the object IS in color, and thus warrant color coding. That is the case when (1) the color of the localisation is the typical, often sole, natural color of the object, and (2) the verbalisation is «clear and unequivocal». And (3) most often, the object is a «formless» object.

Coding Principle 3
In cases of «Color convergence», color as location is sufficient to warrant color coding

Such cases are known as **«color convergence»** cases, where the color of the location mentionned and the natural colorof the object «converge» together. Classical cases of color convergence include:
- **Blood** localised in a **red** area
- **Vegetation** localised in a **green** area
- **Water** localised in a **blue** area
- **Fire** localised in an **orange** or **red** area

However, the verbalisation must be «clear and unequivocal», which means that the formulation must include an «is» or «looks like» formulation, rather than wording such as «could be», «might be».

- Ex: 2 bears bleeding, here on each side, and the red is the blood — Color
- Ex: The orange looks like fire — Color
- Ex: A mountain, the green could be vegetation. — No Color
- Ex: A landscape, the center is water, the blue — Color

As seen in such examples, «color convergence» mostly applies to «formless» objects. indeed, this coding rule is meant to ease the verbiage requirements for objects which are «obviously» based on color. It is more difficult to make that assumption for form-specific objects, which could always be based solely on form even if the color of the location and the natural color of the object converge. But if the verbalisation is sufficiently «conclusive», some form-specific objects may qualify for color convergence. For example:

- Ex: A man's face, his eyes up here, his nose in the center, and the red here is his tongue, obviously — Color

Here's a summary table for color verbiage.

Color verbiage in which color is attributed to an object = **Clear Color Use**	Color	Ex: A red butterfly
Color verbiage used to identify location, but the case qualifies for **Color Convergence**	Color	Ex: The red is blood
Color verbiage used to identify location, and the case does not qualify for Color Convergence	No Color	Ex: The red is the butterfly

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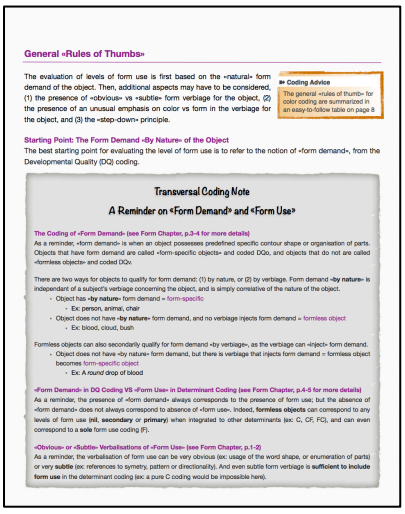

General «Rules of Thumbs»

The evaluation of levels of form use is first based on the «natural» form demand of the object. Then, additional aspects may have to be considered, (1) the presence of «obvious» vs «subtle» form verbiage for the object, (2) the presence of an unusual emphasis on color vs form in the verbiage for the object, and (3) the «step-down» principle.

Coding Advice
The general «rules of thumb» for color coding are summarized in an easy-to-follow table on page 8

Starting Point: The Form Demand «By Nature» of the Object

The best starting point for evaluating the level of form use is to refer to the notion of «form demand», from the Developmental Quality (DQ) coding.

Transversal Coding Note
A Reminder on «Form Demand» and «Form Use»

The Coding of «Form Demand» (see Form Chapter, p.3-4 for more details)

As a reminder, «form demand» is when an object possesses predefined specific contour shape or organisation of parts. Objects that have form demand are called «form-specific objects» and coded DQo, and objects that do not are called «formless objects» and coded DQv.

There are two ways for objects to qualify for form demand: (1) by nature, or (2) by verbiage. Form demand «by nature» is independant of a subject's verbiage concerning the object, and is simply correlative of the nature of the object.
- Object has «by nature» form demand = form-specific
  - Ex: person, animal, chair
- Object does not have «by nature» form demand, and no verbiage injects form demand = formless object
  - Ex: blood, cloud, bush

Formless objects can also secondarily qualify for form demand «by verbiage», as the verbiage can «inject» form demand.
- Object does not have «by nature» form demand, but there is verbiage that injects form demand = formless object becomes form-specific object
  - Ex: A round drop of blood

«Form Demand» in DQ Coding VS «Form Use» in Determinant Coding (see Form Chapter, p.4-5 for more details)

As a reminder, the presence of «form demand» always corresponds to the presence of form use; but the absence of «form demand» does not always correspond to absence of «form use». Indeed, **formless objects** can correspond to any levels of form use (**nil**, **secondary** or **primary**) when integrated to other determinants (ex: C, CF, FC), and can even correspond to a **sole** form use coding (F).

«Obvious» or «Subtle» Verbalisations of «Form Use» (see Form Chapter, p.1-2)

As a reminder, the verbalisation of form use can be very obvious (ex: usage of the word shape, or enumeration of parts) or very **subtle** (ex: references to symetry, pattern or directionality). And even subtle form verbiage is **sufficient to include form use** in the determinant coding (ex: a pure C coding would be impossible here).

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Part 2: Study of Effect of New Manual on Coding Accuracy

Table 2 presents the comparison between the scoring accuracy rates and evaluations results for groups of students using the standard manual and the new manual.

On determinant categories that were taught in class (Human Movement, Animal Movement, Inanimate Movement, Chromatic Color), accuracy rates were in the “fair” to “good” range, with kappas from k .52 to k .75, and no significant difference was found between students using the standard manual and students using the new manual. For this portion of the workshop, the students’ evaluation of the teacher was similar in both groups (3,90/4,00 and 3,87/4,00), while the students’ evaluation of the manual they used differed significantly with the new manual obtaining much higher scores than the standard manual (respectively 3,54/4,00 and 2,83/4,00).

On the determinant category that was not taught in class (Form Dimension), accuracy rates were in the "poor" range, with a kappa of k .33 for students using the standard manual, while in the "fair" range", with a kappa of .58, for students using the new manual. This difference between the two groups was found to be significant. The students' evaluation of the manual they used for that portion of the workshop also differed significantly between the students using the standard manual and the new manual, the latter obtaining much higher scores than the former (respectively 3,64/4,00 and 2,46/4,00).

TABLE 2

Comparison Between the Scoring Accuracy Rates and EQ Results of Students Using the Standard Manual and the New Manual

		Standard Manual (n = 45)	**New Manual** (n = 30)			
	Scoring Accuracy:	Kappa (SD)	Kappa (SD)	**t**	**p Value**	**d**
With Teaching	Human Mvt	.67 (,12)	.64 (,11)	0,808	,422	
	Animal Mvt	.75 (,22)	.71 (,19)	0,896	,361	
	Inanimate Mvt	.53 (,27)	.52 (,15)	0,238	,812	
	Chromatic Col	.58 (,15)	.59 (,13)	-0,249	,804	
	Mean for all 4 determinants	*.62 (,12)*	*.58 (,11)*			
	Evaluation of:	Mean/4,00	Mean/4,00			
	Teaching	3,90	3,87	0,892	,375	
	Manual	2,83	3,54	-7,308	< ,001*	1.94
		Standard Manual (n = 43)	**New Manual** (n = 32)			
	Scoring Accuracy:	Kappa (SD)	Kappa (SD)			
Without Teaching	Form Dimension	.33 (,26)	.58 (,25)	-4,069	< ,001*	0.94
	Evaluation of:	Mean/4,00	Mean/4,00			
	Manual	2,46	3,64	-10,828	< ,001*	2.65

Note. * Statistically significant at $\alpha < .05$

DISCUSSION

The main objective of this study was to developed a new "higher quality" reference source for Rorschach-CS determinant coding, and verify if such "improvements" in the coding information would lead to better scoring accuracy. The first specific objective was to do a critical review of the coding information offered in the Workbook and develop new reference material for Rorschach-CS determinant coding that redressed the shortcomings identified in the Workbook. This lead to the production of a 60-page new manual for Rorschach-CS determinant coding. The second specific objective was to test and compare the effect of this new reference material versus the Workbook on scoring accuracy in a group of students receiving training in Rorschach-CS determinant coding. Results showed that for determinant categories learned with in-class teaching, accuracy rates ranged from k .52 to k .75, and no significant differences were found between students using the standard manual and students using the new manual. But, for the determinant category learned without in-class teaching, accuracy rates were k .33 and k .58, respectively for students using the standard manual and students using the new manual, a difference that was found to be significant.

Overall, accuracy scores in both groups of the present study are somewhat low, in comparison to known benchmarks and other studies. This result was however expected, for many reasons. First, participants here were undergraduate students with lower CS-skills and lower motivation than usual samples (graduate students and experienced clinicians). Second, the level of difficulty of the test protocols was here very high, higher that the average clinical protocol. Third, the segment in question (determinants) is one of the most difficult to score and usually yields some of the lowest accuracy levels of all the segments. Comparison with other studies is further complicated by the fact that the accuracy scores were calculated here at the determinant

category level, and not at the determinant segment level generally used in other studies. As was explained previously, it was not possible here to conduct analysis at the determinant segment level, as data was not collected on all determinant categories, but only on the five determinant categories under study.

Results are essentially tow-fold. On the one hand, accuracy scores on the first four determinant categories which were taught in class (Human Movement, Animal Movement, Inanimate Movement, Chromatic Color) show similar performance by the two groups, namely students having the Workbook as a written reference source and students having the new manual as a written reference source. On the other hand, accuracy scores for the fifth determinant not taught in class (Form Dimension) show a significantly higher performance by the group having the new manual than by the group using the Workbook. The new manual was expected to produce higher accuracy scores in both conditions ("With Teaching" or "No Teaching"), but results show that it does only in the "No Teaching" condition. Two main hypotheses can be proposed to explain these results.

The first would be that the "improvement value" between the Workbook and the new manual is not equal for all determinant categories, and is great only for the Form Dimension determinant category, while it is nil for other determinant categories. More precisely, perhaps the chapter on Form Dimension in the Workbook is much "weaker" than the other chapters in the Workbook, and therefore its difference with the quality level of the new manual is greater than for other determinant categories. The text section on Form Dimension in the Workbook is particularly short and cumbersome, so it seems possible that this chapter could be weaker and that the level of improvement of that coding information in the new manual was superior to that of other determinants. However, as many of the weaknesses identified in the Workbook

were generalized across all chapters, and the same process was used by the author to produce each chapter of the new manual, it seems unlikely that the "improvement value" could vary so much as to be really great for one determinant category (k .33 versus k .58 for Form Dimension), but nil for all other determinant categories (no significant differences for Movements and Color).

The second hypothesis would be that the same in-class teaching given to both groups has overshadowed the differential effect of the manuals in the "With Teaching" condition, but of course not in the "No Teaching" condition. This hypothesis suggests that when the only source of information available to students is a written manual, then the scoring accuracy reflects the quality of the coding information in that manual. But when oral teaching is also provided to students, they can also use the oral information provided to them when scoring protocols. And, in this study, the oral presentations given by the instructor were equivalent in both groups and reflected the new manual in structure and depth. Therefore, even the group that had the Workbook as a written reference manual had "access" to the information from the new manual orally (and students probably wrote it down in their personal notes). It seems very reasonable to assume that when students score protocols, they rely on all the information given to them, including the oral presentations in class. This hypothesis would suggest that when students had access to the "higher quality" coding information of the new manual, whether it be in a written or an oral format, they favored this information for coding (yielding accuracy levels averaging around k .60). But when students did not have access to the 'higher quality" coding information of the new manual neither in a written nor in an oral format, they relied on the Workbook coding information (yielding an accuracy level of k .33). This hypothesis would explained not only why the two groups in the "With Teaching" condition obtained similar

accuracy scores, but also why the "New Manual" in the "No Teaching" condition obtained an accuracy score (k .58) that is similar to that of either groups in the "With Teaching" condition (averaging around k .60): all these groups had access to the "better quality" information of the new manual via either the written manual or the oral presentations of the instructor. And this hypothesis is further supported by the results obtained on the EQs, which show that both groups evaluated the teaching they received very highly and similarly (3,90/4,00 and 3,87/4,00), whereas the written reference manuals received very different evaluations, with the new manual receiving significantly more positive reviews (3,64/4,00) than the Workbook (2,46/4,00). One observation here that is of value for the teaching and learning of Rorschach-CS scoring is that in-class teaching may compensate for lower quality written reference sources, at least temporarily while oral information is still fresh in mind.

Comments made by students on the Manual EQs were also reviewed to identify the preferred features of the new manual (versus the Workbook). Some of the elements that distinguish the new manual from the Workbook and appear to contribute its better standing are summarized in table 3.

TABLE 3

Distinguishing Features of the New Manual

Structure	• Tri-partite structure of each chapter 1. Verbalization 2. Simple coding 3. Complex coding • Systematic decision guide for coding
Content	• More information • Clearer information • Multiple examples and counter-examples
Organization	• Colors and fonts in-text • Colored tabs and inserts
Practice Exercises	• Detailed correction key

These features all contribute to a greater usefulness and pleasantness of the manual. But, most importantly, these features combine to give coders a much more methodical way of thinking through coding decisions, and it is this systematic approach to thinking and applying coding that appears to have been beneficial to students.

The teaching structure in this study was similar to the "vertical" approach proposed by Hilsenroth and Charnas (2007). For each determinant category taught in class, students were first given a theoretical lecture of the its scoring rules, and then they were asked to score only this determinant category in multiple responses practice exercises. In the experience of the instructor, the use of a vertical approach (especially here, where it was segmented event further into determinant categories rather that just scoring segments) allowed for a more in-depth teaching and more repetitions of the same material, factors that can help students in their learning. However, the factor that, in the experience of the instructor, appeared to be the most helpful to students was the introduction of a "systematic decision table" that summarized and organized the scoring principles for each determinant category. These tables were not only presented in writing in the new manual, but they were also used repeatedly in verbal teaching, and were applied step-by-step in the correction key for the soring exercises. In all, it appears to the instructor that this led to a real cognitive integration of a systematic method to apply scoring in students.

Conclusions

This study suggests that scoring accuracy can be improved by providing better quality information to coders. The method used here to develop new chapters on determinant coding has proved manageable and useful in producing a higher quality text that both improves

scoring accuracy and is better appreciated by the users. Such a method could be used to develop new chapters on all other CS scores, and some of the strong features of the new manual could be applied to revisions of existing manuals.

The results of this study also suggest that information provided orally can compensate for shortcomings in written reference sources. However, it is reasonable to assume that such a compensation effect only lasts while the information is fresh in mind (unless written down). And so, if oral information can temporarily help, it does not alleviate the need for a high quality written reference manual.

The first limit of this study is that the sample was constituted of undergraduate students, and it is therefore unsure to what extent similar results would be obtained in samples of the usual Rorschach-CS users, that is graduate students and experienced clinicians. It should be noted though that one strength of the present study is that the sample size in this study was much larger (75 students scoring 50 responses, for a total of 3750 responses scored), compared to other studies (in Guarnaccia et al., 2001: 21 students scoring 20 response, for a total of 420 scored responses; in Hilsenroth et al., 2007: 29 students scoring 39 responses, for a total of 1131 scored responses).

A second limit to this study is that it concentrated on only five determinant categories in the Rorschach-CS scoring system. The extent to which the conclusions of this study can be extended to other Rorschach-CS determinant categories (in particular to Shading determinants, which are reputed as particularly difficult to score accurately) and scoring segments is unknown. Similar studies on these other scoring elements of the Rorschach-CS would be here highly beneficial.

A third limit to this study is that the experimental design did not provide for the same determinant category to be tested under “With Teaching” versus “No Teaching” conditions, which limits the conclusions that can be drawn from the comparison between the accuracy rates in those different conditions. It is interesting to note that the accuracy rate obtained the accuracy rates obtained in the “With Teaching” condition are similar to the accuracy rate obtained with the New Manual in the “No teaching” condition, while very different from the accuracy rate with the Standard Manual in the “No Teaching” condition. is similar to, whileand “Without Teaching” conditions.

Although this study does contribute interesting data to the issues of scoring accuracy, its most important contribution is definitely the production of a new “improved” written source of information for the scoring of the Rorschach-CS determinants. This new manual may not only help scoring accuracy, but it can also better the experience of the students in learning the very tedious Rorschach-CS scoring system. The analytical method used in production this portion of the new manual could extended to all other scoring categories, for the production of a new complete manual for Rorschach-CS scoring. More studies would be needed to test the potential beneficial effects of such new “improved” coding information on quality of scoring of Rorschach-CS users.

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CHAPITRE 4 – NOUVEAU MANUEL : « Rorschach-CS Determinant Scoring »

INTRODUCTION

This new manual was developed for the scoring of Rorschach-CS determinants, more specifically for the scoring of six determinants in particular: Human Movement, Animal Movement, Inanimate Movement, Chromatic Color, Form Dimension, and Form (as the sole determinant).

As an illustration of the analytic process in play in the development of the manual, part of the elaboration of the Color coding principles is detailed here.

First, responses containing a Color score were culled, disregarding the various score options (FC, CF, C, Cn). They were first scrutinized to determine the verbalizations that seemed to warrant Color scores. The first observation was that they all contained some wording referring to color, from very specific colors being named to more general references to coloring (e.g. “colourful”, “the pastels”). Here, it was also observed that a small number of responses included multiple color verbalizations for one or more objects. As such complex answers render less clear the link between elements of verbalizations and the color codes assigned, they were put aside, to be studied later in the analysis. All verbalizations that clearly led to a Color score were listed, and organized in groups based on similarity. Then, all the remaining responses that did not contain a Color score were scanned again to cull any counter-examples, that is responses that included color wordings even in the absence of a Color score. The second observation here was that the same types of color wordings appeared in both sub-sets of responses (from specific colors being named to more general references to coloring). The two sub-sets were then studied comparatively to identify what differentiated them. The third observation here was that color verbalizations seemed to serve four different functions: (1) color verbalizations that attribute color to an object (e.g. “a red hat”, in which the hat is red),

(2) color verbalizations that are used to identify the location of an object (e.g. “the red is the hat”, in which the hat is not red), (3) color verbalizations that make the “color element” represent in abstraction the object of the response, generally an emotion (e.g. “all the colors, it’s like happiness”, in which happiness is the object of the responses, represented by the color element), and (4) color verbalizations that make the “color element” itself the object of the response (e.g. “it’s blue, a beautiful pastel blue”, in which the blue is the actual object of the response). All examples and counter-examples were then grouped according to these four types of verbalizations. The particularities in the color wordings for each type could then be further defined (for example, in the first type, the color is generally used as an adjective, “a red hat”, while in the second type, the color is generally used as a noun, “the red is the hat”, etc.). Here, a fourth observation was made: all examples of the first, third and fourth types had a Color score, while only examples of the second type included both responses that had a Color score and responses that did not. The examples of the second type of verbalizations were then further studied to identify what differentiated them. Here, a series of coding principles were extracted: (1) In general, color verbalizations that are used to identify the location of an object are not sufficient to warrant a Color score (e.g. “the red is the hat” = No Color score). (2) However, there are certain exceptions to this rule, namely: such responses can warrant a Color score if (a) the object is a “formless” one and (b) the color mentioned in the verbalization is the usual sole or main color of the object (e.g. “this red here is blood” = Color score).

Such analytic process was then extended to other particularities of Color scoring, for example principles that guide the choice of the “level of form” to attribute with a Color score (FC, CF, C), principles that guide the choice of final Color score in responses with multiple objects

involving color, principle that pertain to rare "exceptional" figure cases such as "emotions/sensations as a response" or "color naming as a response'.

And a similar analytic process was applied to each determinant category under study here, namely Color, all Movement types, Form Dimension, as well as the "by default" Form "as the sole determinant".

The analytical process was pursued until a set of coding principles could be extracted that would yield *without fault* the exact correct scoring when applied to all of the 668 responses present in the Workbook and TRACS-1. And it also allowed to gather systematically a great amount of information for the various notions studied, yielding more precise, complete and refined coding information for the new manual (e.g. exhaustive lists of verbalizations, comparative sets of examples and counter-examples, redefinition of some confusing notions such as "cases of color convergence", etc.).

Julie Doyon

Rorschach-CS Determinant Coding

1 Basic Determinant Coding

Determinant coding is reputed to be one of the most difficult part of the CS coding. There are many different types (or categories) of determinants in the CS, offering a total of 28 possible codes. But the difficulty in coding them does not stem from their great number, but from the numerous and often complex rules that guide the coding of each type of determinants, which are presented at length in the following chapters. However, certain mentions are warranted beforehand.

The Nature of Determinants

Determinants are properties of the blot that contribute to responses given by subjects. Indeed, subjects form answers in response to particular stimuli, the blots. And the blots have various characteristics (form, color, etc.) that may influence subjects in forming and choosing responses. The responses, as verbalized by the subject, will contain elements that reflect some of the blot features that have been involved in forming these answers (for example, reporting a particular object because the form of the object corresponds to the form features of the blot, reporting a blue object because there is a blue area in the blot, etc.). Indications in the verbalizations of subjects of the usage of the various features of the blots are translated in the different determinant codings.

One general coding principle that the coder must keep in mind is that **determinant coding must reflect the verbalizations of the subjects**. The examiner may sometimes suspect influence of blot features that are not properly verbalized by the subject, and may be tempted to infer their usage and include them in the determinant coding. But determinant coding must be limited to the verbalizations of the subjects.

General Principle

Determinant coding must reflect the verbalization

However, in many instances where the examiner suspects usage of certain blot features that are not properly verbalized, an inquiry may be justified, provided that a keyword is present. In fact, most inquiry will stem from such cases, and aim at confirming a determinant coding. If during inquiry, the subject properly verbalizes the suspected blot feature usage, then it can be included in the determinant coding.

Overview of Types of Determinants

Specific and sometimes complex principles guide the coding of each type of determinant, and those specific coding principles are discussed at length in the following chapters. Presented below is an introductory overview of all types of determinants.

Form

The most evident caracteristic of the blots is, of course, their specific form features. And most answers will involve some Form use. When an answer is based solely on the form features of the blot, a **Form** determinant coding is warranted, namely **F**.

However, in answers where other determinants are also present, Form use will be included in the coding of these other determinants, and not added as a separate coding. Indeed, as discussed below, all other determinants either include in themselves primary Form use (as in Form Dimension coding) or must be weighted by the level of Form use in the answer (as in Color coding, Shading coding, and Reflection coding). Presence of Form use in such determinants translates in the integration of the symbol «F» in those determinant codings. There is one exception to this principle, that is Movement codings do not allow for the addition of an «F» symbol, although Form use is considered inherent to those determinants. Indeed, Form use in said to be «subsumed» in movement codings. In practice, it is true that most of the time movement involves some form use. However, there are rare cases where it doesn't, cases which are called «formless M» answers.

Form Dimension

Form features can also be used to create an impression of depth. In such cases, a **Form Dimension** coding is warranted, namely **FD**.

Color

Another evident caracteristic of the blots is their color features. The blots and their white background show achromatic colors (black, grey, white) and/or chromatic colors (ex: red, blue, green, etc.). These color features can lead to responses that are reported in color, warranting a **Chromatic Color** coding (associated to the symbol «C») and/or **Achromatic Color** coding (associated to the symbol «C'»). These Color codings also need to integrate the level of Form use involved in the response. The level of Form use can be nil (the response is based solely on the color features of the blot), secondary (the response is based primarily on the color features of the blot, but the form features of the blot are also used) or primary (the response is based primarily on the form features of the blot, but the color features of the blot are also used). These levels of Form use will lead respectively to **C**, **CF** or **FC** codings for Chromatic Color, and to **C'**, **C'F** and **FC'** codings

for Achromatic Color. Although extermely rare, the chromatic color features of a blot can also be offered as responses in themselves, warranting here a **Color Nomination** coding, namely **Cn**.

Shading

Blots also have shading features. Shading refers to the uneven degree of saturation in the ink colors throughout the blots, which creates darker and lighter areas in the blots. Such shading features can induce various impressions, such as texture, depth, pattern, shadow, etc. When shading features lead to responses that involve an impression of texture or depth, such responses will warrant respectively a **Texture Shading** coding (associated to the symbol «T») and a **Vista Shading** coding (associated to the symbol «V»). The usage of shading features in creating any other impression than texture or depth will lead to a **Diffuse Shading** coding (associated to the symbol «Y»). As with color codings, shading codings also need to integrate the level of Form use involved in the response, namely nil, secondary of primary Form use. The levels of Form use will lead respectively to **T**, **TF** or **FT** codings for Texture Shading, to **V**, **VF** or **FV** codings for Vista Shading, and to **Y**, **YF** and **FY** codings for Diffuse Shading.

Reflection

Blots are also symmetrical, and, as such, one side mirrors the other. When this double-sided property of the blots leads to responses involving one side being seen as the reflection of the other, it warrants a **Reflection** coding. As with Color and Shading codings, Reflection codings also need to integrate the level of Form use involved in the response. However, here, only two levels of Form use are possible, namely secondary or primary Form use, leading respectively to **rF** or **Fr** codings. Indeed, the complete absence of Form use does not apply here, since all Reflections stem from the symmetry of the blot, which is part of the form features of the blot.

Movement

The CS also includes Movement in the determinant codes. Movement is not per say a property of the blot (the blot is of course not actually in movement!), but Movement is nevertheless coded as part of the determinants in the CS. The verbalization of movement in a response will always warrant a Movement coding. There are three types of Movement codings, namely **Human Movement**, coded **M**, **Animal Movement**, coded **FM**, and **Inanimate Movement**, coded **m**. Movement coding is quite complexe, and involves many exceptions and special cases. But, in general, a movement is attributed to an object, and the coding first depends on the appropriateness of the movement for the object to which it is attributed. If the movement is appropriate for the object, the coding will reflect the type of object, i.e. M for humans, FM for animals, and m for inanimate objects. But if the movement is inappropriate for the object, then the coding is always M, regardless of the type of object. Also, Movement codings need to be complemented by a subscript, intended to reflect the level of energy involved in the movement. When the level of energy is high, the Movement is considered **active**,

and when the level of energy is low, the Movement is considered **passive**, corresponding respectiveley to **a** and **p** subscripts. When one object is involved in multiple movements, the two subscripts can not be combined for the same type of Movement (M, FM or m), and the active subscript overrides the passive subscript here. But the two subscripts could be combined for the same type of Movement if the movements warranting each subscripts pertain to different objects in one answer.

Blends of Multiple Determinants

In simple answers, often only one determinant applies, so the coding is straightforward. But in more complex answers, many different determinants may apply, and the coding may become quite complicated. As seen in the previous overview, some determinant categories offer multiple codes. And each category of determinants has its own set of coding rules. These specific coding rules for each type of determinant are discussed at length in the following chapters.

But one general coding principle that must be kept in mind is that, **when coding determinants**, it is always best to **first** consider **each object separately**, and list all determinants applicable for each object:

➽ General Principle

When coding determinants, always first list all determinants for EACH OBJECT separately

- Ex: *There's 2 people talking and dancing, and for some reason they're hurt, see the red here, it's blood dripping off of them. And they have a velvet hat on, see here the different shades make it look like velvet.*
  - People: talking (Mp), dancing (Ma)
  - Blood: red (CF), dripping (mp)
  - Hat: shades like velvet (FT)

Then, the specific coding rules for each determinant category will state if multiple codes of the same determinant category are to be **combined** or **selectively omitted or kept** for the same object or for different objects in one answer.

In the end, multiple determinant codes will often be retained to be entered in the final coding of an answer. In such a case, known as a «**blend**», the different determinant codes are listed one next to the other, separated by a dot.

- Ex: *There's 2 people talking and dancing, and for some reason they're also bleeding, see the red here, it's blood dripping off of them. And they're wearing a velvet hat, see here the different shades make it look like velvet.* Ma.mp.CF.FT

The only determinant that is never entered in a blend is Form, namely F. As stated before, F is either coded alone as the sole determinant, or it is not coded separetely if at least one other determinant is coded.

The following table summarizes the different types of determinants and their main application, and offers a preview of the codes that are combinable in a blend.

Type	Subtype	Main application	Codes	Variations
Form		Response based solely on form features	F	Always alone
Color	Chromatic Color	Chromatic colors = object is in color	C - CF - FC	One code from each line is combinable in a blend
	Color Nomination	Chromatic colors = offered as the response	Cn	
	Achromatic Color	Achromatic colors = object is in color	C’ - C’F - FC’	
Shading	Texture Shading	Dark/light features = impression of texture	T - TF - FT	
	Vista Shading	Dark/light features = impression of depth	V - VF - FV	
	Diffuse Shading	Dark/light features = any other impression	Y - YF - FY	
Reflection		Symmetry = reflection	rF - Fr	
Form Dimension		Form features = impression of depth	FD	
Movement	Human Movement	Appropriate movement for human object or inappropriate movement for any object	Ma - Mp - Map	
	Animal Movement	Appropriate movement for animal object	FMa - FMp - FMap	
	Inanimate Movement	Appropriate movement for inanimate object	ma - mp - map	

2
Form
F

There is only one determinant code in the CS for form use, namely F.

The Verbalization of Form Use

References to Form use in the verbalisations of subjects are often very obvious, but they can also be quite subtle.

Obvious Form Use

Identifying instances where Form is used is often relatively easy. Subjects will rarely use directly the word «form» in their verbalization, but they will often use the word «shape». Perhaps the most frequent way to convey form use is the enumeration of parts of the object while situating them on the blot. By doing so, subjects are indicating that the form features of the objects they are describing correspond to the different form features of the blot areas, provided that the correspondance is obvious.

- Ex: It's the shape of a butterfly — Form
- Ex: It's a butterfly, here are the wings, and here is the body and the head — Form

Subtle Form Use

Indications of Form use can also be much more subtle, and reflect only a very minimal usage of form features. Common verbalisations of such minimal Form use are references to symetry, pattern, or directionnality (generally by movement).

- Ex: An abstract painting, it's all symmetrical — Form
- Ex: Fireworks in a pattern — Form
- Ex: Blood dripping down — Form

The Coding of Form (F)

Most answers will involve some Form use. However, not all answers where Form use occurs will result in an F symbol being entered in the final coding of an answer. Indeed, a sole «F» symbol will be coded when Form is the only determinant for an answer. But when other determinants are also involved in the answer, Form use will be integrated directly in the coding of those other determinants, and a separate «.F» coding is NOT added separately in the blend.

«F» as the Sole Determinant

When Form use is the **sole** determinant, F will be coded as the only determinant.

- Ex: It's a butterfly, it has the shape of one, with the wings on the side F

Coding Principle 1

When Form is the sole determinant, code only F

No Separate «.F» with Other Determinants

But when any other determinant applies to an answer, Form use will not be coded as a separate determinant. Instead, all other determinants allow for inclusion of Form use in their codings, and adding a separate «.F» coding in the blend is a coding error. These other determinants are discussed at lenght in the following chapters, but they are mentionned here below in order to highlight the absence of separate F coding in their presence.

Coding Principle 2

When Form is not the sole determinant, Form use will be integrated to other determinants; do NOT code F separetely

For some determinants, Form use is automatically included, for example in the Form Dimension coding (FD), where an «F» symbol is even part of the code, and in Movement codings (M - FM - m / a - p), where the «F» symbol is not necessarily included, but Form use is nevertheless considered subsumed.

- Ex: It's a giant, like I'm looking up at him, his feet are really big but his head is very small, like further FD (not F.FD)
- Ex: It's a giant sitting on a stump, with his legs here and the stump in the middle Mp (not F.Mp)

For other determinants (Color, Achromatic Color, Shadings, Reflection), Form use is not automatically included, but they allow for its inclusion by offering codings that vary according to the **level of Form use** in the object. Three levels of Form use exist:

- **Primary**: object is based predominantly on Form, but another determinant is also involved (ex: FC)
- **Secondary**: object is based predominantly on another determinant, but Form is also involved (ex: CF)
- **Nil**: object is based solely on another determinant, with no Form use involved (ex: C)

Color and Shading codings allow for integration of these three levels (for example, Chromatic Color codings: FC - CF - C). Reflection coding allows for integration of only primary and secondary levels of form use (Fr - rF), as the complete absence of Form use (nil form level) is impossible here since reflection is always based on the symetry of the blot, a form feature.

- Ex: *It's a red butterfly, see the wings are body, and it's red* — FC (not F.C nor F.FC)
- Ex: *It's a landscape reflected in water, there's like rocks and vegetation, and it's all reflected in the water down here* — rF (not r.F nor rF.F)

Form Demand vs Form Use

The astute reader will have noticed that the notion of «Form use» discussed here for the Form determinant can seem strangely similar to the notion of «form demand» which is part of the Developmental Quality (DQ) coding in the CS. Indeed, the two notions are closely related. However, they are not entirely equivalent. Clarifying the distinction between the two notions is important to accurately code for Form use, either as a sole determinant or integrated to other determinants.

Transversal Coding Note

A Reminder on «Form Demand» in Developmental Quality (DQ) Coding

The Coding of «Form Demand»

As a reminder, «form demand» is when an object posesses predefined specific contour shape or organisation of parts. Objects that have form demand are called «form-specific objects» and coded DQo, and objects that do not are called «formless objects» and coded DQv. There are two ways for objects to qualify for form demand: (1) by nature, or (2) by verbiage.

(1) At its basic level, form demand is simply correlative of the «**nature**» of an object. Here, the question is: when anybody thinks of that object, does it have a predefined specific shape? (regardless of the verbiage of a particular subject or the form features of a particular blot). This answer to this question makes the basic distinction between the two types of objects:

- If the object has a specific contour shape or organisation of parts = «form-specific object»
  - Ex: person, animal, chair
- If the object does not have a specific contour shape or organisation of parts = «formless object»
  - Ex: blood, cloud, bush

(2) But then, for «formless objects», the **verbiage** also has to be considered, as it «**injects**» form demand to such objects. The question here is: does the way that this particular subject verbalizes the object show that he/she has in mind a more specific shape for that object? If the verbalization of the subject includes specification of some elements of contour shape or organisation of parts (at least for part of the object), an object that was formless by «nature» now becomes a form-specific object.

- If the verbalization «injects» form demand = «formless object» becomes «form-specific object»
  - Ex: a *round* drop of blood
  - Ex: a cumulus cloud, *real flat at the bottom, more narrow on top*
  - Ex: a *tall* bush, long and narrow

Here are some classical examples objects which are «formless» by nature, but can become «form-specific» by verbiage.

Formless objects ... becoming ...	**Form-specific objects**
Cloud, lake (no shape specified) - Ex: A lake	... shape specified - Ex: An oval lake
Trees, leaves (plural, indistinct masses) - Ex: A bunch of tress	... tree (singular) - Ex: A tree, trunk and branches
Leaf, flower (singular, no kind or parts specified) - Ex: It makes me think of a flower	... parts or kind specified - Ex: A flower, petals and stem - Ex: A rose
Blood, paint, ink (no shape specified) - Ex: This is blood	... shape specified - Ex: A drop of blood, it's round
Organ or organs (unspecific) - Ex: Some sort of internal organ	
Abstract painting - Ex: An abstract painting, it's symetrical	... shapes mentionned - Ex: A painting of geometrical shapes
Fireworks - Ex: A fireworks display	... pattern/organisation specified - Ex: Fireworks in a symetrical pattern
Cloth, cotton, fur (no shape specified) - Ex: It looks like cotton	... shape specified -Ex: Cotton balls, round
Coal, crackers, meat (indistinct lumps) - Ex: It look like coal	... shape specified - Ex: Coal pieces, squares

The two notions of «form demand» and «Form use» appear so closely related that they are often confused and assumed intertwined in coding; namely, it is often assumed that the presence of form demand would correspond to the presence of Form use, and that the absence of form demand would correspond to an absence of Form use, and. But while the first assumption is true, the second is false!, namely the absence of form demand does NOT NECESSARILY correspond to the absence of Form use!

Form-specific objects

Form-specific objects will ALWAYS involve some Form use (either **secondary** or **primary** form use integrated with other determinants, or **sole** Form use if no other determinants). A complete absence of Form use (nil level of Form use) is NEVER possible here.

Here is an example for a form-specific object that may involve Color:

• Ex:	The Pink Panther, wow, it's really pink, it's the same kind of «candy pink» like the Pink Panther, with the legs and the tail	CF
• Ex:	A pink panther, see the body, the legs and the tail, and it's pink	FC
• Ex:	A panther, the legs and the tail, the head with little ears	F

A pure «C» coding would be impossible for such form-specific objects. Even if there is great emphasis on Color, the coding will always involve at least secondary Form use (CF). And most often, the coding will involve primary Form use (FC) or sole Form use (F). This logic would also apply for all determinants that are weigthed by levels of Form use, namely Achromatic Color, Shadings and Reflection.

Formless objects

Formless objects CAN correspond to an absence of Form use (a **nil** level of Form use), but it CAN also correspond to the presence of Form use (either **secondary** or **primary** Form use integrated with other determinants, and even to **sole** Form use if no other determinants are involved!).

It might seem counter-intuitive that it is possible for Form to be the sole determinant for an object that is «formless». Since formless objects are precisely «formless», they are often inspired by other determinants (Color, Shading, etc.), and often without any Form use. But, in rare occurences, a subject will report a formless object and mention subtle Form use without refering to any other determinant.

Coding Principle 3

Form can be the sole determinant coded even for formless objects

Here is an example for a formless object that may involve Color:

• Ex:	An abstract painting, just a bunch of colors thrown there	C
• Ex:	A very colorful abstract painting, lots of colors, in some kind of geometrical shapes	CF
• Ex:	An abstract painting, it seems very calculated, like planned to be very symetrical and geometrical, with lots of pointed shapes, and different colors	FC
• Ex:	An abstract painting, with all geometrical shapes in a symetrical pattern	F

Such formless objects often involve nil or secondary Form use (C or CF). Primary Form use (FC) is also possible, although rare, if the emphasis on Form is great despite the presence of another determinant. And sole Form use (F) is moderately probable, if there is minimal Form use while no other determinants are mentionned. This logic would also apply for all determinants that are weigthed by levels of Form use, namely Achromatic Color, Shadings and Reflection.

3

Color (Chromatic)
C - CF - FC - Cn

There are 4 codes in the CS that pertain to Chromatic Color use:

- C: Pure Color
- CF: Color - Form
- FC: Form - Color
- Cn: Color Nomination

Usually, when the color features of the blot are used, the color is attributed to an object in the answer, which then warrants one of the three **main codes** for Chromatic Color coding of either **C**, **CF** or **FC**, depending on the level of Form use also involved for that object. Such cases are discussed first, and at length, in the following text, as they are the most frequent cases of Color use.

In rare instances, instead of being attributed to an object, color can also be presented in itself as a response. This **special case** of Color use is known as «Color Nomination» (**Cn**), and is discussed separetely in the last section of this chapter.

The Verbalization of Chromatic Color Use

The first step in Color coding is to identify color verbiage, and distinguish between color verbiage that conveys Color use and color verbiage that does not.

Color verbiage

Color verbiage is easy to identify as it directly refers to color, either to a specific color such as «red/blue/green, etc.» or to color in general such as «color/colors/colourful», etc.

But then, the presence of color verbiage does not always convey Color use. And only instances of Color use lead to a Color coding.

Object in Color = Color

Color verbiage conveys Color use when the color is clearly attributed to an object, that is the verbalization indicates that the object is SEEN AS BEING IN COLOR.

Coding Principle 1

Objects reported as BEING IN color warrant a Color coding

The simplest of such verbalizations is when the subject uses color as an adjective for an object (ex: a green bush) or as part of the justification for seeing an object (ex: a bush, because of the color; the color makes me think of a bush).

- Ex: It's a red butterfly — Color
- Ex: An apple, it's red — Color
- Ex: A bunch of flowers, all different colors — Color
- Ex: A very colorful garden — Color
- Ex: It's a lung, because of the color — Color
- Ex: All the colors make me think of a Chritsmas tree — Color

What is important here is that the verbalization indicates that the object IS IN color.

Color as Location = No Color

There are instances where color verbiage is present in the verbalization, but it does not convey Color use because the color is not attributed to an object. The most frequent of such cases is when subjects **mention color simply to identify the location** of objects on the blot. Indeed, when a blot presents colored areas, a simple way to locate objects in the blot is to refer to those colored areas. The typical verbalization here will generally involve color wording preceeded by «the», such as «the red part is the butterfly», «the butterfly is here in the red area», «the red is the butterfly», « the butterfly is in the red». Such verbalizations DO NOT necessarily imply that the object reported IS IN color, so they are **not sufficient** to warrant a Color coding.

Coding Principle 2

When color is mentionned simply as location, it does NOT justify Color coding

- Ex: A mountain in the middle, and the the pink could be 2 animals — No Color
- Ex: It's a sail boat, the orange is the base, the blue line in the middle is the mast, and the rest is the sails — No Color
- Ex: A man's face, the eyes are in the red, the mouth is down here — No Color

Exception: Color Convergence = Color

There is one exception to the previous rule. For some objects, a verbalization where color is only mentionned as location can be considered sufficient to assume that the object IS in color, and thus warrant Color coding. That is the case when (1) the color of the location is the typical, often sole, natural color of the object, and (2) the verbalization is «clear and unequivocal». And (3) most often, the object is a «formless» object.

➽ Coding Principle 3

In cases of «Color convergence», color mentionned as location is sufficient to warrant Color coding

Such cases are known as «**Color convergence**» cases, where the color of the location mentionned and the natural color of the object «converge» together. Classical cases of Color convergence include:

- **Blood** localised in a **red** area
- **Vegetation** localised in a **green** area
- **Water** localised in a **blue** area
- **Fire** localised in an **orange** or **red** area

However, the verbalization must be «clear and unequivocal», which means that the formulation must include an «is» or «looks like» formulation, rather than wording such as «could be», «might be».

- Ex: 2 bears bleeding, here on each side, and the red is the blood — Color
- Ex: The orange looks like fire — Color
- Ex: A mountain, the green could be vegetation — No Color
- Ex: A landscape, the center is water, the blue — Color

As seen in such examples, «Color convergence» mostly applies to «formless» objects. Indeed, this coding rule is meant to ease the verbiage requirements for objects which are «obviously» based on color. It is more difficult to make that assumption for form-specific objects, which could always be based solely on Form even if the color of the location and the natural color of the object converge. But if the verbalisation is sufficiently «conclusive», some form-specific objects may qualify for Color convergence. For example:

- Ex: A man's face, his eyes up here, his nose in the center, and the red here is his tongue, obviously — Color

Here's a summary table for color verbiage.

Color verbiage in which color is attributed to an object = **Clear Color Use**	Color	Ex: A red butterfly
Color verbiage used to identify location, but the case qualifies for **Color Convergence**	Color	Ex: The red is blood
Color verbiage used to identify location, and the case does not qualify for Color Convergence	No Color	Ex: The red is the butterfly

The Coding of Chromatic Color (C, CF, FC)

As mentionned in the Basic Determinant Coding chapter, when coding determinants, it is always best to first consider each object separately.

Reminder

Aways first code Color for each obejct separately

At this «object-level», a judgement must be made to decide which of the three Color codes applies (C, CF or FC), and this judgment must be made for this object «as a whole» (two different Color codes can not be retained for different parts of the same object). After all individual objects warranting Color coding have been assigned a Color code, if different objects in one answer have been assigned different Color codes, there are rules to decide which Color code to retain at the «answer-level», as only one Color code can be entered in the final coding of an answer.

These «answer-level» coding rules for complex responses wil be discussed in a later section in this chapter. This section pertains to the rules for coding Color of single objects.

Once a case of color use has been identified for an object, three color codes may apply: C, CF or FC. The appropriate choice depends on the level of form use also involved for the object. Indeed, color is one of the many determinants that must be «weighted» by the level of form use.

Levels of Form Use

For each object warranting a Color coding, an evaluation must be made to determine the proportion to which the object is also determined by Form.

The level of Form use can be:

- **Nil**: the object is based solely on the color features of the blot, leading to a pure **C** code for that object
- **Secondary**: the object is based primarily on the color features of the blot, but the form features of the blot are also used, leading to a **CF** code for that object
- **Primary**: the object is based primarily on the form features of the blot, but the color features of the blot are also used, leading to a **FC** code for that object

The evaluation of the level of Form use is reputed as one of the most difficult task in CS coding. First, it is highly dependant on the verbalization of the subject, and so there are only «general rules of thumb» rather than «hard-fast rules» to guide this coding, and extensive experience with Rorschach protocols is the best (or only) way to gain a «feel» for adequately judging levels of Form use . Second, the determination of the level of Form use involves refering to form demand, the two notions becoming easily confused.

General «Rules of Thumbs»

The evaluation of levels of Form use is first based on the «natural» form demand of the object. Then, additional aspects may have to be considered, such as (1) the presence of «obvious» vs «subtle» form verbiage for the object, (2) the presence of an unusual emphasis on color vs form in the verbiage for the object, and (3) the «step-down» principle».

Coding Advice

The general «rules of thumb» for color coding are summarized in an easy-to-follow table on page 8

Starting Point: The Form Demand «By Nature» of the Object

The best starting point for evaluating the level of Form use is to refer to the notion of «form demand», from the Developmental Quality (DQ) coding.

Transversal Coding Note

A Reminder on «Form Demand» and «Form Use»

The Coding of «Form Demand» (see Form Chapter, p.8-9 for more details)

As a reminder, «form demand» is when an object posesses a predefined specific contour shape or organisation of parts. Objects that have form demand are called «form-specific objects» and coded DQo, and objects that do not are called «formless objects» and coded DQv.

There are two ways for objects to qualify for form demand: (1) by nature, or (2) by verbiage. Form demand «**by nature**» is independant of a subject's verbiage concerning the object, and is simply correlative of the nature of the object.

- Object has «**by nature**» form demand = form-specific object
  - Ex: person, animal, chair
- Object does not have «**by nature**» form demand, and no verbiage injects form demand = formless object
  - Ex: blood, cloud, bush

Formless objects can also secondarily qualify for form demand «by verbiage», as the verbiage can «inject» form demand.

- Object does not have «by nature» form demand, but there is verbiage that injects form demand = formless object becomes form-specific object
  - Ex: A *round* drop of blood

«Form Demand» in DQ Coding VS «Form Use» in Determinant Coding (see Form Chapter, p.8-9 for more details)

As a reminder, the presence of «form demand» always corresponds to the presence of Form use; but the absence of «form demand» does not always correspond to absence of «Form use». Indeed, **formless objects** can correspond to any levels of Form use (**nil**, **secondary** or **primary**) when integrated to other determinants (ex: C, CF, FC), and can even correspond to a **sole** Form use coding (F).

«Obvious» or «Subtle» Verbalizations of «Form Use» (see Form Chapter, p.6)

As a reminder, the verbalization of Form use can be very obvious (ex: usage of the word shape, or enumeration of parts) or very **subtle** (ex: references to symetry, pattern or directionality). And even subtle form verbiage is **sufficient to include Form use** in the determinant coding (ex: a pure C coding would be impossible here).

Form-Specific Objects «by Nature»

If the object is a **form-specific «by nature»**, the most probable coding is **FC**. This applies even if only a part of the object is in color (ex: a face where only the eyes are red).

The only other Color coding that is possible for an object that is form-specific «by nature» is **CF**. A CF coding for such objects is rare, and would apply only if there was **unusual emphasis on color** rather than form in the verbiage.

«Unusual emphasis on color» is actually hard to define, as it can take many forms, such as a particular insistance or a greater elaboration on color, a peculiar use of color, the fact that color is mentionned first (before form), etc. Judgment on this question is highly dependant on the verbalization of the subject, and, as stated before, what is considered «unusual» is best identify by extensive experience with Rorschach protocols.

• Ex:	2 people with cloaks and red hats, see the pointed hats, and they're red	FC
• Ex:	A blue crab, with the body in the center and the many legs	FC
• Ex	A blue spider, with all the legs, but it's weird cause it's a really bright blue and in nature it would not be a very good camouflage, perhaps it's a predatorial spider, or a spider that was exposed to gamma rays	CF
• Ex:	A spider with a red mark on its back, the legs here and here, and the red mark in the middle	FC

Formless Objects «by Nature»

If the object is **formless «by nature»**, then additional factors have to be considered.

First, is there **at least subtle form references in the verbiage**? If **yes**, then the most probable coding is **CF**. The most probable coding would be CF even if the form verbiage was stronger (ex: specific shapes, organisation of parts, etc.) and sufficient to inject form demand to the object that was first formless «by nature». Indeed, even in such cases, CF (and not FC) is the first choice, sort of in «hommage» of the original formless nature of the object. **FC** is also possible, but would apply **only if there was unusual emphasis on form** rather than color in the verbiage.

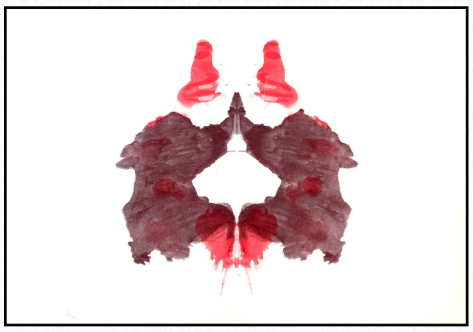
What was said previously for «unusual emphasis on color» also applies here for «unusual emphasis on form», and common examples are again a particular insistance or a greater elaboration on form, a peculiar use of form, the fact that form is mentionned first (before color), etc.

• Ex:	The red is blood, it's dripping down	CF
• Ex	It's a round drop fo blood, it's red like blood	CF

• Ex	A plane with green smoke coming out, like in a plane show, see here the 2 trails of smoke, like two long lines behind the plane, it was probably planned to make that design	FC
• Ex:	A fireworks display, lots of different colors in a symetrical pattern	CF

If there is **no form verbiage** for a formless object «by nature», then the object could qualify for a pure C coding. But one last consideration is neccesary, namely: does the object **touch (on the card) another object which has some Form use**? If yes, than the **C** coding will be changed to a **CF** coding. This is known as the «**step-down principle**», as the level of Color use is «stepped-down» a knotch is such cases.

One noteworthy mention here is that, by convention, all red areas on Card II (even the top red areas) are considered as touching the black areas. This might not be evident for the top red areas, but a slight film of color extends to the black areas, and the red color is distributed throughout the card. By contrast, in Card III, all red areas are clearly isolated.



Card II
All red areas are considered
as touching the black areas

Card III
All red areas
are isolated

In the end, if there is no form verbiage for an object that is formless «by nature», and the object does not touch (on the card) another object which has some Form use, than **the step-down principle does not apply**, and the coding stays a pure **C**.

• Ex (Card II):	2 bears with red paint all over them, see the red on their head and feet, and all over their body	CF
• Ex (Card II):	2 ostriches with long necks, and they're bleeding, see the red there and there	C
• Ex (Card X):	2 dry blood stains, the color is really like dried blood, pinkish	C
• Ex (Card X):	2 elf-like characters spitting water, it's blue like water	CF

Transversal Coding Note

A Note on Achromatic Color and Shadings Coding

Same Rules, Except for The Step-Down Principle

As will be seen in the next chapters, the «general rules of thumb» presented in this chapter also apply for determining levels of Form use for Achromatic Color coding and Shadings coding (Texture, Vista and Diffuse), with only one exception: the «Step-Down Principle» is exclusive to Color coding, and therefore DOES NOT apply to any other determinant category.

Summary Table

The table below summarizes the «rules of thumb» for Color coding at the «object-level».

➽ Coding Principles Summary

The general «rules of thumb» for Color coding are summarized here in an easy-to-follow table

Is there color verbiage?	No	No Color	
	Yes	(continue below)	
Does the color verbiage convey Color use? either as: (1) clear case of Color use or (2) case of «Color convergence»	No	No Color	
	Yes	(continue below)	
Is the object a form-specific object «by nature»?	Yes	Most probable = **FC**	Also possible = CF If unusual emphasis on color
	No	(continue below)	
The object is a formless object «by nature»... Is there minimal form verbiage?	Yes	Most probable = **CF**	Also possible = FC If unusual emphasis on form
	No	(continue below)	
There is no minimal form verbiage... But does the «step-down principle» apply?	Yes	= **CF**	
	No	= **C**	

Color Coding at the «Response-Level»

The previous section dealt with Color coding at the «object-level». Simple answers will often contain only one object that warrants Color coding, but complex answers may include multiple objects that warrant different Color codings. This section adresses the rules for Color coding at the «response-level».

A Reminder: Multiple Color Codings for one Object = Impossible

As previoulsy mentionned, it is NOT possible to have multiple Color codings for one object. For each object separetely, a judgement must be made to decide which of the three Color codes applies (C, CF or FC), and this judgment must be made for this object «as a whole» (two different Color codes can not be retained for different parts of the same object).

Answers with only one Object Warranting Color Coding

If there is only one object in an answer that warrants a Color coding, then the Color coding for that object will simply be entered directly in the final coding of the answer.

Answers with Multiple Objects Warranting Different Color Codings

When there are multiple objects in one answer that warrant different Color codings, only one of these multiple Color codings can be retained to be entered in the final coding for the answer. The rule is: only the Color coding with the **lowest level of Form** will be entered in the final coding of the answer.

		Object-level	Response-level
• Ex:	A mountain in the middle, with 2 pink cameleons on the seides, see the legs and the long tail	• Cameleons = FC	FC
• Ex:	It's a sailboat with a beautiful colored sail, and you can see the water here at the base, the blue	• Boat = FC • Water = CF	CF
• Ex:	2 ladies cooking ribsteaks, see here in the middle, each side is shaped like a ribsteak, and it's kinf of the color of meat; and the red there is like blood on the wall, maybe the meat was bloody and the blood flung all the way over there	• Ribsteaks = FC • Blood = C	C

The Special Case of «Color Nomination» (Cn)

As mentionned in the introduction to this chapter, instead of color being attributed to an object, the chromatic color features of the blots can also be offered as responses in themselves, warranting here a **Color Nomination** coding, namely **Cn**.

Such responses are extermely rare, and are easily identifiable, as the subject names the color or colors and presents it as a response, offering no «objects» in the answer.

- Ex: It's some blue, like a saphire kind of blue Cn
- Ex: It's a mixture of pastel colors, pink, soft orange, pale blue Cn

Color Coding Exercises

COLOR CODING – Practice Protocol 1a

II	1	The whole thing looks like a face.	Well, the red would be the eyes, the cheeks here (black) and the white area would be the mouth, just the shape of a face.	
II	2	You know if I look a different, it could be 2 people, maybe a t a costume party, maybe toasting each other.	Well, it's like they are hunched over toward each other, and each has a cloak on, and they're wearing red hats, and they seem to be holding something, possibly glasses, like champagne glasses, like they're touching them as if they were toasting each other.	
II	3	This looks like a spaceship being propelled into darkness, and on the other side there's light. I guess that's about it, I've really got a good imagination.	This would be the light area in the middle, with a satellite kind of form, and the red underneath is the fiery propulsion, and the dark is the space. (E: The dark?) Around the spaceship is darkness, I guess I would interpret the darkness as a space, like a spaceship does, go into space. (E: You said on the other side there's light?) On top, kind of passing through the space and then back out into this light area (points).	
II	4	The white part looks likes a spaceship.	This looks like the spaceship going up, and the red exhaust is thrusting this way.	
II	5	This looks like blood.	Yes, this red area, it looks like blood to me, see it's red.	
III	6	▼ The red on each side, could be blood, like it's running down.	Well, it's like a drop of blood on each side, and it just looks like it's running down, see the way the line comes down. (E: I'm not sure what makes it look like blood.) Well, it's red like blood.	
III	7	This one's gory too, it looks like a couple of skeletons, like they're dancing around some pot, like they killed something.	There's one on each side, like they're dancing around this pot that they're cooking some poor animal that they killed, see all the blood around them. (E: What makes them look like skeletons?) They're all thin, bony-looking, like skeletons. (E: And the blood?) All this red, it's blood, and this is the pot.	
III	8	2 ladies moving furniture, they must be redecorating.	These are the ladies with heels, and they're moving a piece of furniture. (E: You said they must be redecorating?) Well, there are some red decorations or paintings in the background, so I assume they're redoing an apartment or room.	
VIII	9	If you just take the side, they look like pink wolves.	I've never heard of pink wolves, but that what they look like, one on each side, see the head and the legs.	
VIII	10	I suppose the pink looks like animals too.	Some dog-like kind, the head, body and legs, one on each side.	
VIII	11	▼ It's better this way, but I don't know what it is, a top, yes, a kid's top.	Well, this pointed part is what it spins on, it's round, and it's different colors, it's like I got me nephew, he's only 3.	
IX	12	It just reminds me of happiness and contentment.	All the pretty colors make me think of contentment and happiness, a peaceful picture that gives me a good feeling about myself.	
IX	13	◄ It could be a jungle reflected in the water.	A multicolour jungle, with trees and bushes, and some pink stuff over here, all different colors, and the center would be the water, the blue, and it's all reflected down here.	

IX	14	This oval area looks like a lake.	Some lakes are long and narrow, this just reminds me of a lake like that, it's long and narrow.	
IX	15	Oh, that's pretty. Some pink and green and orange.	They are pretty colors. Just pink and orange and green.	
X	16	It looks like blotches of paint, it's very pretty, like an abstract, like the artist wanted to represent the beauty of color in the world.	All of it looks like someone took a brush and went like this with the blue, green, yellow, pink, it's all very pretty, like an abstract painting that represents how colors beautify the world.	
X	17	You know, with the symmetrical effect and all the colors, it looks like a mobile, like an abstract art with all the pieces hanging in a symmetrical pattern.	If you've ever been to a museum where they specialize in abstracts, they always have mobiles, this one is very colourful, more like a child might do, most of the ones I've seen by artists are made of metal, but this one is just loaded with colors, and up here is where it would hang from, and everything goes out from these large pink things, although you can't see the connections, like this green down here looks like it's suspended by itself, everything is interconnected.	
X	18	The pink is a scab.	It's like if you hurt yourself and begin to heal, it's usually pink like this when it starts to get hard. (E: Starts to get hard?) Well, the color isn't even, some is light pink and some is dark pink.	
X	19	◀ I suppose this could be a brown dog laying down.	Right here (D13), it just looks like a dog laying down, the head and body, and leg outstretched,	
X	20	A fireworks display.	The finale, all the individual fireworks exploding at the same time, a beautiful scene. (E: I'm not sure what makes it look like that.) All the different colors bursting out, in a pattern that somebody planned pretty well, that's how fireworks look when they're done by professionals.	

II	1	I'm having trouble with this, it doesn't look like anything to me. (E: Take your time, everybody finds something.) I guess it could be 2 bears, like they got into some paint or something, that's the only way I can figure what the red is.	Just all of it looks like that, like they're standing there with red paint all over them, it's on their heads and on their feet too, I don't know if they got into it or somebody through it on them, anyhow they've got it all over them.	
II	2	Oh, wow, that looks like a couple of bears stepping in a bucket of paint or something, like blacks bears getting in trouble.	Well, this past is the bears, kind of bent over, see their feet are in this red bucket down here, and they are getting paint all over them, and they're touching their paws together up here, just like they play like in Yellowstone Park, I've seen it on the TV.	
III	3	That center part reminds me of a butterfly.	I think it does, it has the wings and it's red like a pretty butterfly might be.	
III	4	People dancing at a party.	Yes, here's 2 people, see the bodies and heads here, like they're doing the boggie, and these red things are like colourful party decorations.	
III	5	A lot of animal blood there.	There's some here and here (D2), and more down here (D3). (E: I'm not sure why it looks like animal blood.) It's all red, but not as red as human blood, so it is animal blood.	
III	6	◀ This red part reminds me of a Valentine.	It just looks like a Valentine to me. (E: I'm not sure what makes it look like that.) It has a heart shape, valentines are heart shaped, I've sent some that look like this one.	

III	7	These things looks like red devils that are falling, I don't know what the center thing is.	Well, you see little red devils now and then in cartoons, and they're like this, but they are falling here, like upside down with their long tails out behind them.	
VIII	8	(▶) An animal jumping, I don't know why, maybe he's scared like me, and he is seeing himself down here in the water.	It's really strange but better than the others, it's a scared animal, scared out of his wits, he's jumping across all of this, and seeing himself do it down here in the water. (E: Water?) The blue is water, anybody knows that.	
VIII	9	▼ This way, the top could be lava, very hot.	It looks firey, the way the colors mix together, like it's boiling up the way lava does. (E: I'm not sure about the boiling up effect.) Well, it's different colors, pink, orange, different shadings of them, it just looks like it's all boiling together.	
VIII	10	◀ The pink panther on a surfboard shooting a wave.	Here he is, see he's pink, he's got his legs firm on the board, like he's taking this wave, and it's all reflected in the water down here. (E: You said it's the pink panther?) Yeah, the cartoon guy. (E: I'm not sure about the surfboard and the water.) Well, you don't see the board too well, I guess the orange part could be some of it, the water is all the blue, and the wave is the grey part, like the crest is just falling off.	
VIII	11	It's a pleasant change from all the dark blots to come to something with a little color in it, it's like one of those prehistoric paintings on a cave wall.	I went to a movie a few months ago, "The Other Side of Midnight" – the color scheme and pattern looks like prehistoric paintings he showed her in the cave, all yellows and oranges and greens and blues.	
IX	12	The face of a cat, she's wearing a pink collar.	Her ears are the orange and the middle is the nose (D8), and the white spots (DdS29) are the eyes, and she's got this pink ribbon or collar on.	
IX	13	A modern art painting.	It looks like someone just flung the paint on there, the green, white, pink, and orange, just a modern painting.	
IX	14	It's like a crashing sound, really loud.	Yes, when I look, it brings to mind a terribly loud sound. (E: I understand that, but I'm not sure what gives that impression.) I suppose all the different colors, great artists often represent sound with color, look at what Disney did in Fantasia, these colors are presented in a way to make a loud crashing-like sound, probably like Handel or Rachmaninoff or Bernstein.	
X	15	There are 2 faces in the pink, looking at each other.	They look like, what do you call them, elves, they're not real people, just elves, see the nose and the head.	
X	16	The whole thing looks like a lot of germs you'd see under a microscope, all different colors and shapes.	It's kind of gruesome, just a lot of things we never see, but they're on everything, just crawling around under a microscope, like amoeba and bacilae and that sort of thing, you sure got a funny test here.	
X	17	Pieces of a jigsaw puzzle.	Basically because it's so colourful, see within each color there's many variations, and it reminds me of a puzzle, all funny shapes too.	
X	18	These look like birds, canaries.	The shape looks like a bird, and they're yellow like canaries are.	
X	19	▼ I can see someone doing a backflip into a pool of water here, like a diving contest cause that's when they do backflips.	This is really stupid you know, OK, one last one, right. (E: Yes.) Well, here she is, or he is, whatever, it could be either, but usually girls do the backflips, their backs are built better for it. (E: I don't think I see it like you do, help me.) Like it's right here, see the arm out, and the body is bent backward (traces), you can't see the face too well though, and down here, the blue, it's the water, water is blue you know.	
X	20	Oh, the whole thing reminds me of 4th of July fireworks.	Yes, fireworks, they're all exploding. (E: I'm not sure what makes it look like fireworks?) Well, they're bursting outward, like in a very colourful pattern, like fireworks do when they go off.	

Correction Keys

- In blue : color verbiage that conveys color use
- In green : color verbiage that is only used to identify location
  - Underligned wording : color of location + object = color convergence

CORRECTION KEY – Practice Protocol 1a

II	1	The whole thing looks like a face.	Well, the red would be the eyes, the cheeks here (black) and the white area would be the mouth, just the shape of a face.	(No Color)	Object 1: face • Color verbiage (“red”) • But color is formulated as location (“the red”), and is not a case of Color convergence = No Color coding RESPONSE = No Color
II	2	You know if I look a different, it could be 2 people, maybe a t a costume party, maybe toasting each other.	Well, it’s like they are hunched over toward each other, and each has a cloak on, and they’re wearing red hats, and they seem to be holding something, possibly glasses, like champagne glasses, like they’re touching them as if they were toasting each other.	FC	Object 1: people • No Color verbiage = No Color coding Object 2: cloak • No Color verbiage = No Color coding Object 3: hats • Color verbiage (“red”) • Clear color use (“red hats”) • Form-specific object (hat) = FC Object 4: glasses • No Color verbiage RESPONSE = FC
II	3	This looks like a spaceship being propelled into darkness, and on the other side there’s light. I guess that’s about it, I’ve really got a good imagination.	This would be the light area in the middle, with a satellite kind of form, and the red underneath is the fiery propulsion, and the dark is the space. (E: The dark?) Around the spaceship is darkness, I guess I would interpret the darkness as a space, like a spaceship does, go into space. (E: You said on the other side there’s light?) On top, kind of passing through the space and then back out into this light area (points).	CF	Object 1: spaceship • No Color verbiage (and no color in the location) = No Color coding Object 2: darkness • No Color verbiage = No Color coding Object 3: light • No Color verbiage (and no color in the location) = No Color coding Object 4: propulsion (fire) • Color verbiage (“red”) • Color is formulated as location (“the red”), but is a case of Color convergence (red-fire), so yes color use • Formless object (fire) • No form verbiage, but step-down because touches another object with form (spaceship) = CF RESPONSE = CF
II	4	The white part looks likes a spaceship.	This looks like the spaceship going up, and the red exhaust is thrusting this way.	CF	Object 1: spaceship • No Color verbiage (and no color in the location) = No Color coding Object 2: exhaust • Color verbiage (“red”) • Clear color use (“red exhaust”) • Formless object (exhaust) • Some form verbiage (thrusting this way) = CF • (And even if considered as no form verbiage, step-down because touches another object with form (spaceship) = CF) RESPONSE = CF

II	5	This looks like blood.	Yes, this red area, it looks like blood to me, see it's red.	C	Object 1: blood • Color verbiage ("red") • Clear color use ("it's red") • Formless object (blood) • No form verbiage, and no step-down because does not touch any other object with form = C RESPONSE = C
III	6	▼ The red on each side, could be blood, like it's running down.	Well, it's like a drop of blood on each side, and it just looks like it's running down, see the way the line comes down. (E: I'm not sure what makes it look like blood.) Well, it's red like blood.	CF	Object 1: blood • Color verbiage ("red") • Clear color use ("it's red") • Formless object (blood) • Some form verbiage (running down, line) = CF RESPONSE = CF
III	7	This one's gory too, it looks like a couple of skeletons, like they're dancing around some pot, like they killed something.	There's one on each side, like they're dancing around this pot that they're cooking some poor animal that they killed, see all the blood around them. (E: What makes them look like skeletons?) They're all thin, bony-looking, like skeletons. (E: And the blood?) All this red, it's blood, and this is the pot.	C	Object 1 : skeletons • No Color verbiage (and no color in the location) = No Color coding Object 2 : pot • No Color verbiage (and no color in the location) = No Color coding Object 3 : blood • Color verbiage ("red") • Clear color use ("all this red, it's blood") • Formless object (blood) • No form verbiage, and no step-down because does not touch other objects with form (skeletons, pot) = C RESPONSE = C
III	8	2 ladies moving furniture, they must be redecorating.	These are the ladies with heels, and they're moving a piece of furniture. (E: You said they must be redecorating?) Well, there are some red decorations or paintings in the background, so I assume they're redoing an apartment or room.	C	Object 1: ladies • No Color verbiage (and no color in the location) = No Color coding Object 2: piece of furniture • No Color verbiage (and no color in the location) = No Color coding Object 3: decorations or paintings • Color verbiage ("red") • Clear color use ("red decorations") • Formless object (decorations or paintings) • No form verbiage, and no step-down because do not touch other objects with form (ladies, furniture) = C RESPONSE = C
VIII	9	If you just take the side, they look like pink wolves.	I've never heard of pink wolves, but that what they look like, one on each side, see the head and the legs.	FC	Object 1: wolves • Color verbiage ("pink") • Clear color use ("pink wolves") • Form-specific-object = FC RESPONSE: FC
VIII	10	I suppose the pink looks like animals too.	Some dog-like kind, the head, body and legs, one on each side.	(No Color)	Object 1: animals • Color verbiage ("pink") • But color is formulated as location ("the red"), and is not a case of Color convergence = No Color coding RESPONSE = No Color
VIII	11	▼ It's better this way, but I don't know what it is, a top, yes, a kid's top.	Well, this pointed part is what it spins on, it's round, and it's different colors, it's like I got me nephew, he's only 3.	FC	Object 1: top • Color verbiage ("colors") • Clear color use ("it's all different colors") • Form-specific object (top) = FC RESPONSE = FC
IX	12	It just reminds me of happiness and contentment.	All the pretty colors make me think of contentment and happiness, a peaceful picture that gives me a good feeling about myself.	C	(Rare case of "emotional experience as a response", with color use) Object 1: emotion (happiness, contentment) • Color verbiage ("colors") • Clear color use ("all the pretty colors make me think of…") • No form verbiage, and no step-down because does not touch any other object with form = C RESPONSE = C

IX	13	◀ It could be a jungle reflected in the water.	A multicolour jungle, with trees and bushes, and some pink stuff over here, all different colors, and the center would be the water, the blue, and it's all reflected down here.	CF	Object 1: jungle • Color verbiage ("multicolour", "pink", "colors", "blue") • Clear color use for some parts ("multicolour jungle", "pink stuff", "all different colors"), and color formulated as location for one part ("the blue") but case of color convergence (blue-water) • Formless object (landscape) • Some form verbiage (composition of parts) = CF RESPONSE = CF
IX	14	This oval area looks like a lake.	Some lakes are long and narrow, this just reminds me of a lake like that, it's long and narrow.	(No Color)	Object 1: lake • No color verbiage = No Color coding RESPONSE = No Color
IX	15	Oh, that's pretty. Some pink and green and orange.	They are pretty colors. Just pink and orange and green.	Cn	(Rare special case of "Color Nomination") Object 1: color = Cn RESPONSE = Cn
X	16	It looks like blotches of paint, it's very pretty, like an abstract, like the artist wanted to represent the beauty of color in the world.	All of it looks like someone took a brush and went like this with the blue, green, yellow, pink, it's all very pretty, like an abstract painting that represents how colors beautify the world.	C	Object 1: abstract painting • Color verbiage ("color", "blue, green, yellow, pink", "colors") • Clear color use ("blotches of paint, went like this with the blue, green, etc.) • Formless object (abstract painting) • No form verbiage = C RESPONSE = C
X	17	You know, with the symmetrical effect and all the colors, it looks like a mobile, like an abstract art with all the pieces hanging in a symmetrical pattern.	If you've ever been to a museum where they specialize in abstracts, they always have mobiles, this one is very colourful, more like a child might do, most of the ones I've seen by artists are made of metal, but this one is just loaded with colors, and up here is where it would hang from, and everything goes out from these large pink things, although you can't see the connections, like this green down here looks like it's suspended by itself, everything is interconnected.	CF	Object 1: mobile • Color verbiage ("colors") • Clear color use ("this one is very colourful, etc.") • Formless object (abstract art) • Some form verbiage (symmetrical pattern, everything goes out from these large pieces, etc.) = CF RESPONSE = CF
X	18	The pink is a scab.	It's like if you hurt yourself and begin to heal, it's usually pink like this when it starts to get hard. (E: Starts to get hard?) Well, the color isn't even, some is light pink and some is dark pink.	C	Object 1: scab • Color verbiage ("pink") • Clear color use ("it's usually pink like this") • Formless object (scab) • No form verbiage = C RESPONSE = C
X	19	◀ I suppose this could be a brown dog laying down.	Right here (D13), it just looks like a dog laying down, the head and body, and leg outstretched,	FC	Object 1: dog • Color verbiage ("brown") • Clear color use ("brown dog") • Form-specific object = FC RESPONSE = FC
X	20	A fireworks display.	The finale, all the individual fireworks exploding at the same time, a beautiful scene. (E: I'm not sure what makes it look like that.) All the different colors bursting out, in a pattern that somebody planned pretty well, that's how fireworks look when they're done by professionals.	CF	Object 1: fireworks display • Color verbiage ("colors") • Clear color use ("all the different colors bursting") • Formless object (fireworks) • Some form verbiage (bursting out, pattern) = CF RESPONSE = CF

CORRECTION KEY - Practice Protocol 1b

II	1	I'm having trouble with this, it doesn't look like anything to me. (E: Take your time, everybody finds something.) I guess it could be 2 bears, like they got into some paint or something, that's the only way I can figure what the red is.	Just all of it looks like that, like they're standing there with red paint all over them, it's on their heads and on their feet too, I don't know if they got into it or somebody through it on them, anyhow they've got it all over them.	CF	Object 1: bears • No color verbiage = No color coding Object 2: paint • Color verbiage ("red") • Clear color use ("red paint") • Formless object (paint) • No form verbiage, but step-down because touches other objects with form (bears) = CF RESPONSE = CF
II	2	Oh, wow, that looks like a couple of bears stepping in a bucket of paint or something, like blacks bears getting in trouble.	Well, this past is the bears, kind of bent over, see their feet are in this red bucket down here, and they are getting paint all over them, and they're touching their paws together up here, just like they play like in Yellowstone Park, I've seen it on the TV.	FC	Object 1: bears • No color verbiage = No color coding Object 2: bucket • Color verbiage ("red") • Clear color use ("red bucket") • Form-specific object (bucket) = FC Object 3: paint • No color verbiage = No color coding RESPONSE = FC
III	3	That center part reminds me of a butterfly.	I think it does, it has the wings and it's red like a pretty butterfly might be.	FC	Object 1: butterfly • Color verbiage ("red") • Clear color use ("it's red") • Form-specific object (butterfly) = FC RESPONSE = FC
III	4	People dancing at a party.	Yes, here's 2 people, see the bodies and heads here, like they're doing the boggie, and these *red things* are like colourful party decorations.	C	Object 1: people • No color verbiage = No color coding Object 2: things/decorations • Color verbiage ("red") • Clear color use ("red things", "colourful decorations") • Formless object (things, decorations) • No form verbiage, and no step-down principle because does not touch other objects with form (people) = C RESPONSE = C
III	5	A lot of animal blood there.	There's some here and here (D2), and more down here (D3). (E: I'm not sure why it looks like animal blood.) It's all red, but not as red as human blood, so it is animal blood.	C	Object 1: blood • Color verbiage ("red") • Clear color use ("it's all red") • Formless object (blood) • No form verbiage, and no step-down principle because does not touch another object with form (no other object in response) = C RESPONSE = C
III	6	◀ This red part reminds me of a Valentine.	It just looks like a Valentine to me. (E: I'm not sure what makes it look like that.) It has a heart shape, valentines are heart shaped, I've sent some that look like this one.	(No Color)	Object 1: valentine • Color verbiage ("red"), but formulated as location ("this red part"), and does not qualify for color convergence = No color coding RESPONSE = No Color coding
III	7	These things looks like red devils that are falling, I don't know what the center thing is.	Well, you see little red devils now and then in cartoons, and they're like this, but they are falling here, like upside down with their long tails out behind them.	FC	Object 1: devils • Color verbiage ("red") • Clear color use ("red devils") • Form-specific object (devils) = FC RESPONSE = FC

VIII	8	(►) An animal jumping, I don't know why, maybe he's scared like me, and he is seeing himself down here in the water.	It's really strange but better than the others, it's a scared animal, scared out of his wits, he's jumping across all of this, and seeing himself do it down here in the water. (E: Water?) The blue is water, anybody knows that.	CF	Object 1: animal • No color verbiage = No color coding Object 2: water • Color verbiage ("blue"), formulated as location ("the blue is water"), but qualifies for color convergence (blue-water), so yes color use • Formless object (water) • No form verbiage, but step-down principle applies because touches another object with form (animal) = CF RESPONSE = CF
VIII	9	▼ This way, the top could be lava, very hot.	It looks firey, the way the colors mix together, like it's boiling up the way lava does. (E: I'm not sure about the boiling up effect.) Well, it's different colors, pink, orange, different shadings of them, it just looks like it's all boiling together.	C	Object 1: lava • Color verbiage ("colors, pink, orange") • Clear color use ("it's different colors, pink, orange") • Formless object (lava) • No form verbiage, and no step-down principle because does not touch another object with form (no other object in response) = C RESPONSE = C
VIII	10	◄ The pink panther on a surfboard shooting a wave.	Here he is, see he's pink, he's got his legs firm on the board, like he's taking this wave, and it's all reflected in the water down here. (E: You said it's the pink panther?) Yeah, the cartoon guy. (E: I'm not sure about the surfboard and the water.) Well, you don't see the board too well, I guess the orange part could be some of it, the water is all the blue, and the wave is the grey part, like the crest is just falling off.	CF	Object 1: Pink Panther • Color verbiage ("pink") • Clear color use ("he's pink") • Form-specific object (Pink Panther) = FC Object 2: board • Color verbiage ("orange"), but formulated as location, and does not qualify for color convergence = No color coding Object 3: water • Color verbiage ("blue"), formulated as location ("the water is the blue"), but qualifies for color convergence warranting color coding • Formless object (water) • Minimal form verbiage (crest just falling off), and step-down because touches another object with form (panther) = CF RESPONSE = CF
VIII	11	It's a pleasant change from all the dark blots to come to something with a little color in it, it's like one of those prehistoric paintings on a cave wall.	I went to a movie a few months ago, "The Other Side of Midnight" – the color scheme and pattern looks like prehistoric paintings he showed her in the cave, all yellows and oranges and greens and blues.	CF	Object 1: painting • Color verbiage ("the color scheme, yellows, oranges, etc.") • Clear color use ("the color scheme looks like paintings, all yellows and oranges, etc.") • Formless object (unspecified painting) • Minimal form verbiage (pattern, "prehistoric paintings" alludes to shapes) = CF RESPONSE = CF
IX	12	The face of a cat, she's wearing a pink collar.	Her ears are the orange and the middle is the nose (D8), and the white spots (DdS29) are the eyes, and she's got this pink ribbon or collar on.	FC	Object 1: cat • No color verbiage = No color coding Object 2: collar • Color verbiage ("pink") • Clear color use ("pink collar") • Form-specific object (collar) = FC RESPONSE = FC
IX	13	A modern art painting.	It looks like someone just flung the paint on there, the green, white, pink, and orange, just a modern painting.	C	Object 1: painting • Color verbiage ("green, pink, orange, all different colors") • Clear color use ("flung the paint, the green, pink, orange") • Formless object (abstract painting) • No form verbiage, and not step-down because does not touch any other object with form (no other object in response) = C RESPONSE = C

IX	14	It's like a crashing sound, really loud.	Yes, when I look, it brings to mind a terribly loud sound. (E: I understand that, but I'm not sure what gives that impression.) I suppose all the different colors, great artists often represent sound with color, look at what Disney did in Fantasia, these colors are presented in a way to make a loud crashing-like sound, probably like Handel or Rachmaninoff or Bernstein.	C	(Rare case of "sensory experience as a response", with color use) Object 1: sound • Color verbiage ("all the different colors") • Clear color use ("all the different colors, artists represent sound with color") • No form verbiage, and no step-down principle because does not touch any other object with form (no other object in response) = C RESPONSE = C
X	15	There are 2 faces in the pink, looking at each other.	They look like, what do you call them, elves, they're not real people, just elves, see the nose and the head.	(No Color)	Object 1: faces • Color verbiage ("pink"), but formulated as location ("faces in the pink"), and does not qualify for color convergence = No color coding RESPONSE = No Color Coding
X	16	The whole thing looks like a lot of germs you'd see under a microscope, all different colors and shapes.	It's kind of gruesome, just a lot of things we never see, but they're on everything, just crawling around under a microscope, like amoeba and bacilae and that sort of thing, you sure got a funny test here.	CF	Object 1: germs • Color verbiage ("colors") • Clear color use ("all different colors") • Formless object (germs) • Minimal form verbiage (different "shapes", amoebas, bacilae) = CF RESPONSE = CF
X	17	Pieces of a jigsaw puzzle.	Basically because it's so colourful, see within each color there's many variations, and it reminds me of a puzzle, all funny shapes too.	CF	Object 1: puzzle • Color verbiage ("colourful") • Clear color use ("because it's so colourful") • Formless object (pieces of puzzle) • Minimal form verbiage (funny shapes) = CF RESPONSE = CF
X	18	These look like birds, canaries.	The shape looks like a bird, and they're yellow like canaries are.		Object 1: canaries • Color verbiage ("yellow") • Clear color use ("they're yellow") • Form-specific object = FC RESPONSE = FC
X	19	▼ I can see someone doing a backflip into a pool of water here, like a diving contest cause that's when they do backflips.	This is really stupid you know, OK, one last one, right. (E: Yes.) Well, here she is, or he is, whatever, it could be either, but usually girls do the backflips, their backs are built better for it. (E: I don't think I see it like you do, help me.) Like it's right here, see the arm out, and the body is bent backward (traces), you can't see the face too well though, and down here, the blue, it's the water, water is blue you know.	C	Object 1: person • No color verbiage = No color coding Object 2: water • Color verbiage ("blue") • Clear color use ("water is blue") • Formless object (water) • No form verbiage, and no step-down because does not touch other objects with form (person) = C RESPONSE = C
X	20	Oh, the whole thing reminds me of 4th of July fireworks.	Yes, fireworks, they're all exploding. (E: I'm not sure what makes it look like fireworks?) Well, they're bursting outward, like in a very colourful pattern, like fireworks do when they go off.	CF	Object 1: fireworks • Color verbiage ("colourful") • Clear color use ("in a colourful pattern") • Formless object (fireworks) • Minimal form verbiage (bursting outward) = CF RESPONSE = CF

4

Movement
M - FM - m / a - p

Movement coding in the CS corresponds to «two-symbol» codings. The first symbol in a Movement coding identifies the «type of movement» (M, FM, m), and it is always accompanied by a «subscript» specifying the «level of energy» involved in the movement (a, p). So, there are 5 codes in the CS that pertain to Movement:

Types of movement	Subscripts
• M: Human movement • FM: Animal movement • m: Inanimate movement	• a: active • p: passive

After a general presentation of the verbalization of movements and the realm of activities involved, this chapter first adresses the coding rules for «types of movement» (M, FM, m), and then for «subscripts» (a, p). These sections of the text pertain to the coding of individual movements. Complexe cases where multiples movements are present in one answer are discussed in a separate section at the end of this chapter.

The Verbalization of Movement

Movement coding applies each time a subject verbalizes an object in «movement». As will be seen shortly, most often, the verbalization of movement is generally straightforward, as the subject will either use a verb (ex: flying) or a verbless expression (ex: in flight) that clearly refers to movement.

The difficulty in identifying instances where Movement coding applies does not relate to the wording used by subjects, but to the great variety of «movements». Indeed, the realm of movement is much larger than simply objects «in motion», and includes many passive, static and subtle forms of postures, internal states, or natural processes, which can animate an object.

The Realm of Movement

Some cases of Human and Animal movements are quite obvious, while others are more subtle. Inanimate Movement is often more complex to identify, as it is often subtle, and spans a broad range since it covers the movements associated to a wide variety of objects.

Human or Animal Movement

The most obvious type of Human or Animal Movements are «motion actions», where the object is verbalized as actually moving (ex: talking, dancing, flying, growling). But there are many more subtle types of human or animal activities, where the object is not necessearily in motion, but is still animated in some way. For example, behaviors that are static (ex: looking, waiting) and postures that require muscle tension (ex: standing, sitting) are also considered activities. «Internal states» are also considered activities, ranging from cognitive (ex: thinking) to sensory (ex: hearing) to emotional (ex: feeling) experiences. Sensory and emotional experiences warrant special attention as, instead of being attributed to an object, they can also be offered as responses in themselves (see section below «Special Case Figure: Sensory and Emotional Experiences»).

See Special Case Figure
Sensory and Emotional Experiences as Responses
(see p.39)

One last worthy mention is that, sometimes, Human or Animal Movements may not even originate from the figure itself, but rather invovlve an external force or involontary process that the figure is subjected to. For example, movements such as «falling» or «hanging» result form gravity, but if the subject verbalizes them in relation to the figure (ex: a monkey falling, a man hanging), they would be considered Human or Animal Movements.

Common Types of Human and Animal Movements

• **Motion actions**: behaviors that involve motion
  • Ex: talking, dancing, flying, growling
• **Motionless behaviors**: behaviors that are static
  • Ex: looking, waiting
• **Postures**: positions that require muscle tension
  • Ex: standing, sitting
• **Internal states**: emotional, sensory or cognitive experiences
  • Ex: feeling, hearing, thinking
• **External forces or involontary processes** (that the figure is subjected to):
  • Ex: falling, hanging

Inanimate Movement

Inanimate Movement spans a very broad range, as it include activites pertaining to a great variety of inanimate objects. Indeed, inanimate objects include dead human and animal objects, and all non-human/non-animal objects, for example plant life (ex: flowers, trees), natural elements and phenomena (ex: lake, cloud, wind), man-made objects (ex: gun, motorcycle), bodily fluids (ex: blood, spit), etc. Inanimate Movement is any

movement that is inherent to the properties or fonctions of the object (ex: a flower blooming, a gun shooting) or an external force or involontary process that the object is subjected to (ex: a leaf falling, a flag hanging, a skin stretched out to dry, blood drying).

One last worthy mention here is that some static states that can be considered Movement if attributed to a human or animal figure are not considered Movement if attributed to an inanimate object. The prototypical example here is «lying». For example, «a dog lying on the floor» would be considered Movement, but «a rug lying on the floor» would not be considered Movement. That is because when it is attributed to a human or animal figure, it is a posture that involves some muscle tension, whereas when it is attributed to an inanimate object, no tension state is involved.

Common Types of Inanimate Movement

• **Plant life**:
  • Ex: a plant blooming, moss growing, a flower opening up
• **Natural elements or phenomenas**:
  • Ex: wind blowing, cloud floating, smoke rising, water splashing
• **Technological objects**:
  • Ex: a gun shooting, a wheel spinning, a plane flying
• **Bodily fluids**:
  • Ex: blood running down, tears rolling down, spit flying
• **External forces or involontary processes** (that an inanimate object is subjected to):
  • Ex: a leaf falling, a flag hanging, a skin stretched out to dry, blood drying

Proper Verbalization of Movement

Most often, movement is verbalized with a **verb** (ex: flying). **Verbless expressions** are, of course, also possible (ex: in flight).

In general, the coder must keep in mind that the coding must always reflect the response as verbalized by the subject. The coder must not extrapolate from the subject's wording and assume that Movement is implied.

There is one exception to that general rule. A few inanimate objects are considered to be «**inherently in movement**». Prototypical examples of such cases are waterfalls and fireworks. For such objects, no added verbalization is required, the simple mention of the object is sufficient to justify a Movement coding.

Coding Principle

Movement is generally verbalized as a verb or other expressions that clearly convey movement

Coding Principle

Some objects are considered «inherently in movement» (ex:waterfall, explosion)

Improper Verbalization of Movement

There are some other improper verbalizations that may hint at the presence of Movement, although they are insufficient to warrant Movement coding.

Form or Postion Description

The first of such instances is when the subject describes the **form or position** of the object with langage that hints to motion or postural muscle tension. For example, if a subject says «a woman, her arms are up here», it might be tempting to consider the «arms up» as Movement. However, it is not the case here, as the subject is simply describing the relative position of the parts of the object. If the subject had said «a woman, with her arms extended up», then the verbalization includes Movement. Subjects often verbalize form or position by using wording such as «the wings are back here», «poneytail is up here», «the petals are out here on each side», etc., but none of these wordings warrant Movement coding.

Another example of form or position descriptions that are often mistaken for Movement are appendages that are described as «sticking out», such as «the horn sticking out here», «the petals sticking out on each side», etc. Again, these wordings do not warrant Movement coding. However, if a subject says «the face of a man sticking out his tongue», then «sticking out» is here a motion attributed to the object and would warrant Movement coding.

Past Movements or Movements Attributed to Objects not in Response

A second instance that does not warrant Movement coding is when the subject describes **past movements**, or **movements attributed to objects not part of the response**. In order to make sense of their response, subjects may verbalize past events that led to the response as they are seeing it. For example, a subject could give the following answer: «It's a dead bear, somebody shot it». In this response, the segment «somebody shot it» is a past event offered as context and is not part of what is seen on the card, and such segments are not to be coded. Another example would be: «It's a bear on a stake, it's like you know when hunters hang the animal on a stake and let it bleed to get rid of the blood». In this response, the segment on «when hunters hang the animal on a stake and let it bleed to get ride of the blood» is here again offered as context for the response, and should not be coded.

Coding Principle

Description of form or position and references to past movements or movements of objects not actually seen in the card are NOT to be coded as Movement

The Coding of Movement: Types of Movement (M, FM, m)

As mentionned in the Basic Determinant Coding chapter, when coding determinants, it is always best to first consider each object separately.

In fact, in Movement coding, it is best to first consider **each movement separately**. Indeed, in Movement coding, it is possible for one single object to be invovled in multiple movements. As a start, all movements pertaining to each object should be listed, and each movement should be coded individually. The rules for determining the coding of each individual movement are discussed below. Then,

Reminder

In Movement coding, consider each movement separately at first

there are rules to deal with cases where multiple movements apply for one single object, and for differents objects in one answer. These «response-level» rules are discussed at the end of this chapter.

Each individual movement must be assigned a double coding, composed of a first symbol identifying the «type of movement» (M, FM, m), followed by a subscript specifying the level of energy of the movement (a, p).

The present section adresses the coding of the «types of movement» (M, FM, m). The determination of the type of movement best proceeds by following first a few general rules, with a few cases then warranting special consideration.

General Rule 1: Appropriateness of Movement for the Object

The first distinction to be made in order to correctly code for Movement relies on the appropriateness of the movement for the object involved in the movement. Indeed, the coding principles differ depending on whether or not the **particular activity** involved in the movement is appropriate or not for the **particular object** involved in the movement.

Basically, when the particular activity is **appropriate** for the particular object, the type of Movement coded will be tied to the type of object involved in the movement, namely a human object in movement would be coded **M**, an animal object in movement would be coded **FM**, and an animate object in movement would be coded **m**.

- Ex: A woman dancing M
- Ex: A bird flying FM
- Ex: A flower blooming m

Coding Principle

If movement is appropriate:
- M for human objects
- FM for animal objects
- m for inanimate objects

However, when a particular activity is **inappropriate** for the particular object, then the Movement coding is always **M**, regardless of the type of object involved. Such coding is warranted to reflect the human fantasy involved in forming such answers.

- Ex: A man flying M
- Ex: A bird talking M
- Ex: A tree dancing M

Coding Principle

If movement is inappropriate:
- always M

Transversal Coding Note

Such coding will be accompanied by an INC or FAB Special Score

The application of those basic coding principles is discussed in more details below for each type of object.

Human Objects [H,Hd,(H),(Hd)]

Appropriate Movement. For real human objects [H,Hd], an appropriate movement is of course any movement that is possible for human beings. If a human object is described in an activity appropriate for humans, the correct coding is **M**.

Human-like figures [(H),(Hd)] include known fictional or mythological characters (ex: angel, witch, fairy, clown, ghost, etc.) or «monsters/creatures» that are identified ot described as human-like. For such specific human-like figures, an apropriate movement includes any movement that is part of the realm of movement known to be possible for the particular figure, but also movements that are not typical of the figure but can be considered as not too «far-fetched» either. Indeed, as human-like figures are fictional, a certain latitude is tolerated when considering their realm of movements.

The rules above apply to whole objects as well as to most details of such figures (ex: head, upper-half, hands). However, there are a few «human parts» which are considered separate inanimate objects (and thus coded m), such as bodily fluids (ex: blood, saliva), bones and organs, and hair pieces separate of a human body (ex: lock of hair, mustach) (See section on «Special Case Figures»).

See Special Case Figures
Some Figure Details
(see p.39)

Inappropriate Movement. Most frequently, cases of inappropriate movement for human objects involve the attribution of an animal activity to a real human object. If a human object is described in an activity that is inappropriate for humans, the correct coding is still **M**, here to reflect human fantasy.

- Ex: A man flying M

Animal Objects [A,Ad,(A),(Ad)]

Appropriate movement. For real animal objects [A,Ad], an appropriate movement is any movement that is part of the repertoire of movements possible for the particular species of animals involved in the movement. Indeed, it does not suffice that the movement be animal in nature, it most be congruent to the species of the animal object to which it is attributed to. If an animal object is described in an animal activity that is appropriate to its species, the correct coding is **FM**.

One noteworthy mention is that the CS is rather conservative in their view of animal nature, and «anthropomorphised» movements are not considered appropriate for animals. Some individuals may defend that animals can have complex cognitive processes and feel complex emotions, but cognitive and emotional states have to be described in a simplistic «animalistic» fashion to be considered appropriate movement for animal objects.

Coding Principle

Only «animalistic» cognitive processes and emotional states are appropriate for animals

- Ex: A very angry dog, showing his teeth and growling FM (appropriate for animal)
- Ex: An angry dog, fed up with the harshness of life M (inappropriate for animal)

As for human-like figures, animal-like figures [(A),(Ad)] include known fictional or mythological characters (ex: dragon, unicorn, magic frog, etc.) or «monsters/creatures» that are identified ot described as animal-like. And here again, for such specific animal-like figures, an appropriate movement includes any movement that is part of the realm of movement known to be possible for the particular figure, but also movements that are not typical of the figure but can be considered as not too «far-fetched» either.

And here again, the rules above apply to whole objects as well as to most details of such figures (ex: head, upper-half, paws). However, there are a few «animal parts» which are considered seprate inanimate objects (and thus coded m), such as bodily fluids (ex: blood, saliva), bones and organs, and fur pieces separate of an animal body (ex: piece of fur, animal skin) (See section on «Special Case Figures»).

See Special Case Figures
Some Figure Details
(see p.39)

Inappropriate movement. If an animal object is described in an activity that is inappropriate for its species, the correct coding is **M**. The most obvious types of such cases are animal objects involved in either a human movement or an animal movement that is incongruent for the species of the animal object.

- Ex: A dog talking M
- Ex: A fish dancing M
- Ex: A snake flying M

Inanimate objects

Appropriate movement. If an inanimate object is described in an inanimate activity that is appropriate to its kind, the correct coding is **m**.

Some inanimate objects have a known repertoire of movements, such as plant life and natural elements and phenomenas. However, technological objects are more versatile, as their «man-made» nature could make possible the attribution of almost any property or function. As such, technological objects are rarely involved in inappropriate movements.

Inappropriate movement. If an inanimate object is described in an inanimate activity that is inappropriate to its kind, the correct coding is **M**. Such cases are rare, and involve mostly the attribution of a human or animal movement to plant life or natural elements or phenomenas.

- Ex: Trees dancing the waltz M
- Ex: A very happy tree M
- Ex: A tree flying M

Exception to General Rule 1: Permissive Contexts

The articulation by the subject of a «**permissive context**» can null the «inappropriate» nature of a movement for a particular object. For example, the context of the **circus** or an **imaginary wolrd** can render appropriate many otherwise inappropriate activities, especially for animals. For example, «a bear dancing» would be coded M, as dancing would be considered an inappropriate activity for a bear. However, if a subject says «a bear dancing in a circus», then the activity becomes appropriate, as bears in such a context are indeed often taught to perform «dance routines». And the coding can thus remain FM.

➽ Coding Principle

Permissive contexts can change inappropriate movements into appropriate movements

General Rule 2: Attribution of Movement According to Verbalization

As was mentionned previously, Movement coding must reflect the verbalization of the subject. One important implication of that general rule is that **movement is attributed to an object ACCORDING to the verbalization** of the subject, and not according to what would «make sense» in the real world.

➽ Coding Principle

The object to which a movement is attributed to must NOT be decided by logic, but rather MUST reflect the verbalisation

For example, if a subject gives the response «a man falling», it would be logical to think that the movement is caused by a natural phenomenon, gravity, and thus attribute the movement to this inanimate object. However, the inanimate object «gravity» is not part of the response, and the subject mentions the verb «falling» in association to the «man». The movement is therefore here attributed to a human object.

If the subject had said «a man falling really fast, gravity is really pulling on him», the first movement (falling) is still attributed to the human object (man), but the second movement (pulling down) is now attributed to an inanimate object (gravity). The two movements could here be coded.

Similarly, if a subject gives the response «a man riding a motorcycle up a hill», it would be logical to think that the movement is caused by the technological object, the motorcycle, and thus attribute the movement to this inanimate object. But here again, the movement is verbalised as attributed to the man. If the subject had said «a man on motorcycle, with the wheels going real fast», then the movement would be attributed to the motorcycle.

Special Case Figures

Some Figure Details (bodily fluids, bones, organs, hair/fur pieces)

Some figure details are conventionnally considered as inanimate objects, and thus their Movement is coded in m instead of M. Such cases include bodily fluids (blood, saliva), bones and organs seen outside a body, and hair or fur pieces.

- Ex: Blood running down m
- Ex: Spit flying m
- Ex: A chestbone breaking apart m
- Ex: An animal hide hanging on a pole m

Sensory and Emotional Experiences Offered as Responses

As seen previously, sensory and emotional experiences are considered movements, and most often they are attibuted to objects. In such cases, the Movement coding will follow the general rules detailed in the previous section.

In rare instances, instead of being attributed to an object, sensory and emotional experiences can be offered as responses in themselves. In such cases, they are always coded M.

- Ex: All the colors remind me of happiness M
- Ex: It's like anger, very dark M
- Ex: When I see all these colors, I hear joyful music M

The Coding of Movement: Subscripts (a, p)

The Movement codes M, FM and m must be complemented by a subscript. There are two such subscripts in the CS:

- a: active
- p: passive

Level of Energy

Grossely, these **subscripts** aim at **qualifiying** the **level of «energy»** involved in the movement. Clear guidelines to determine a vs p subscripts are not easily established. The most effective aids for this determination are, first, the use of a benchmark, and, second, the consultation of a sample list of coded movements.

Coding Principle

Subscripts qualify the LEVEL OF ENERGY of a movement

Benchmark

The common **«benchmark» example** is the following: for human movement, **talking** should be considered as the **most «energized» of the passive movements**. Any movement that involves equal or less energy than talking should be coded p. And any movement that involves more energy than talking should be coded a.

This benchmark may prove very helpful in determining a vs p subscripts for human and animal movements. But its utility is limited when considering inanimate movement, as there are no equivalent to «talking» for most inanimate objects.

Sample List

A sample list of coded movements may also be of help in determining a vs p subscripts. Any particular movement can be compared to items in such a list to find pertinent reference points.

Sample list of passive (p) and active (a) movements					
Human Movement		**Animal Movement**		**Inanimate Movement**	
Talking Standing Sitting Looking Feeling sad Leaning	p	Gliding Hiding Sitting Sleeping	p	Blooming (flower) Dripping (blood) Falling (water) Stretched out (skin) Drying (ink) Rising (smoke)	p
Yelling Arguing Lifting Walking Feeling angry Dancing	a	Flying Crawling Roaring Eating	a	Splashing (water) Shooting (gun) Flapping (flag) Burning up (fire) Boiling up (lava)	a

Exception: Artistic Representations

One exception exists for the coding of the subscripts: when the response is an «**artistic representation**» of objects in movement, all movements will always be assigned the **p** subscript. Artistic representation include paintings, drawings, pictures, abstracts, sculptures, etc. For example, a movement such as dancing would normally be coded as active. However, if the answer is «a sculpture of a ballerina dancing», then the same movement would instead be coded as passive.

Coding Principle

All movements in artistic representations are always coded p

Movement Coding at the «Response-Level»

Many responses will include only one movement, making the Movement coding straightforward. However, some responses can be much more complex, involving multiples movements for one object and/or multiples objects in movement. In order to make the correct final Movement coding for the answer, there are rules that apply for multiple movements attributed to one single object, and for multiple movements attributed to different objects in one answer.

Multiple Movements for One object

First, only one type of movement can apply for one single object. Generaly, if multiple movements are attributed to one figure, they will all be of the same type. For example, the answer «a child looking at himself in the mirror, talking to himself and and laughing, it's like he's playing» includes four movements (looking, talking, laughing, playing) attributed to the same object (the child), and all four movements are of the M type.

In rare cases, two different types of movements can be attributed to an object. For example, the answer «a bear standing on his hind legs and jumping, like dancing hip-hop» includes three movements, but two are FM (standing on hind legs, jumping) and one is M (dancing). In all such cases, at least one of the movements will always be «inappropriate» and thus coded M. And in all such cases, other movements are to be changed to M as well. So, in the above example, all three movements would now be coded M.

Second, one subscript is allowed for one single object, with the a subscript overriding the p subscript (and even multiple p subscripts) when both apply for the same type of movement. These coding principles are illustrated for the following example:

Coding Principle

For each object, keep only ONE TYPE of movement (if multiple types, all become M), and keep one ONE SUBSCRIPT (if both, keep a)

«It's like 2 bears dancing together and holding hands, it looks like they're also roaring, see here their spit is flying. And it looks like they're hurt, see the blood running down here. And there's 2 monkeys hanging down in the background.»

In this answer, there are four objects: bears, spit, blood, monkeys. For the first object (bears), three movements are verbalized, and their respective Movement coding would be: dancing (Ma), holding hands (Mp), and roaring (FMa). However, only one type of movement can be kept for one object, namely M, so the FMa movement (roaring) is now converted to Ma. All movements are now of the M type, but the two subscripts are assigned to different movements. The two subcripts can not apply for the same type of movement for one object, the a subscript having priority over the p subscript in such a situation. So, here, only Ma is retained for the object «bears».

For the other three objects (spit, blood, monkeys), only one movement is involved, respectively ma (flying), mp (running down), hanging (FMp), each being retained for each object.

Objects	M	FM	m	→	Retained coding per object
Bears	Dancing = Ma Holding hands = Mp (Roaring = Ma)	~~Roaring = FMa~~		• Keep only one type per object (if multiple types, keep M) • Keep only one subscript per object (if both, keep a)	Ma
Monkeys		Hanging = FMp			FMp
Spit			Flying = ma		ma
Blood			Running = mp		mp

Multiple Movements for Different Objects

Movement codings from different objects in one response must then be combined into one entry per type of movement. At this level though, both subscripts can be coded for the same type of movement, leading to three choices for subscripts: a, p or a-p.

➽ Coding Principle

One entry for each type of movement can be coded in the final coding of an answer, and different subscripts coming from different objects in the answer can be combined here in an «a-p» subscript

In the above example, only one M coding and one FM coding was retained for these two types of movement (Ma and FMp), so both can be straightforwardly entered in the final response coding. However, for the m type of movement, two codings with different subscripts (ma and mp) were retained for different objects. At the response level, both these subscripts can be combined in an «a-p» subscript, leading here to an ma-p entry. The final Movement coding for this answer is thus Ma.FMp.ma-p.

Objects	M	FM	m	→	Retained coding per object	
Bears	Dancing = Ma Holding hands = Mp (Roaring = Ma)	Roaring = FMa		• Keep only one type per object (if multiple types, keep M) • Keep only one subscript per object (if both, keep a)	Ma	
Monkeys		Hanging = FMp			FMp	
Spit			Flying = ma		ma	
Blood			Running = mp		mp	
				↓	• One entry per type • Combine subscripts	
					Ma.FMp.ma-p	**Retained coding for answer**

Movement Coding Exercises

MOVEMENT CODING – Practice Protocol 2a

I	1	The face of a dog with 4 eyes, he's angry.	Just the dog's head, ears, eyes, 4 of them, a weird dog, he's got his mouth open like he's growling, like a dog does when angry about something.	
I	2	Like in mythology, a goddess in the middle, and a couple of winged animals on each side.	She's standing here with her hands raised, and the 2 winged animals are on their hind legs, kind of raised up around her, like they're doing what she wants them to, they're like servants. (E: I'm not sure about the animals.) On each side of her, see the wings and the hind legs down here, and the front legs, and heads, they're jumping up because she has raised her arms up, like a signal for them to do so.	
II	3	◄ This looks like the heads of 2 birds, spitting at each other.	The features look like a bird's face, you know, mouth, nose, and they're spitting at each other, like they're mad at each other and spitting, you can see spit flying there.	
II	4	This part looks like a candle.	Yes, it's long and slender like one, and it looks like the wax is dripping down it. This bottom pat could be the holder that the candle is in.	
II	5	▼ A red-headed man that looks embarrassed.	The eyes, nose, very embarrassed, see the red cheeks and he has his hands up on either side of his face.	
II	6	2 bears in a circus balancing something on their noses.	The center thing is something they're balancing, and these are the bears, their heads and bodies.	
III	7	It looks like 2 people on a seesaw that has a motor on it so all you have to do is sit there.	Their heads here, and the bodies sitting on this lower part, which is the seesaw, and the engine (D7), and it's going up and down. (E: I'm not sure I see the people correctly.) Their heads, legs, sort of on the board, like squatting.	
IV	8	A man riding on a motorcycle.	Here's the man's head and body and legs. (E: And the motorcycle?) Down here, you see the wheel, and these would be the handlebars.	
IV	9	Maybe a tree.	It has the general shape of a tree with all the branches hanging down, sort of droopy, like a lot of weight on them (outlines), trunk is here.	
IV	10	A flower up here.	It looks like a flower, the soft petals coming out from the centre. (E: I'm not sure what makes them look soft.) The way the coloring is there, it looks like they would be soft.	
V	11	That's Dracula, standing there in his black cloak, ready to fly.	His arms are out, but don't count the ends, and don't count these top things, you can't see his face, he's all in black, stretching his arms out ready to fly and find another victim for his masochism.	
V	12	This is a rabbit doing exercises.	Like he's lifting barbells. (E: I don't think I'm seeing it right, help me.) He's in the middle, see the ears (top) and little skinny legs, and he's trying to lift up these weights, one on each side, they look pretty heavy. (E: Pretty heavy?) Well, they're bigger than he is.	
VI	13	This is a fist ready to hit something or somebody.	Just that round shape, you know like when you make a fist like to hit something.	

VI	14	It's some little animal like an otter, popping up out of the water.	It looks like the water is splashing. (E: Show it to me like you see it.) Here's the water splashing, like he's popped right up out of it, here's the head, eyes, whiskers.	
VII	15	Somebody looking in a mirror and seeing her reflection.	They're the same, this part here and here, this is the person and this (left) is the mirror image of the face, see the nose and chin.	
VIII	16	Something burning, a bonfire.	Well, it's like flames, it's orange like fire, and the way it's shaped there it reminds me of a bonfire.	
IX	17	The whole thing could be clouds floating over a mountain, here at the bottom.	These top parts (D3+D1) just look like clouds, kind of shapeless. (E: You said over a mountain?) Just above it, floating by, they cover most of it, you can just see the bottom of it here (D6), the upper part would be covered by the clouds.	
IX	18	It just reminds me of happiness and contentment.	All the pretty colors make me think of contentment and happiness, a peaceful picture that gives me a good feeling about myself.	
X	19	The whole thing looks like a bunch of insects having a party.	They're all dancing around, looking for fun and food, the blue looks like spiders, little green worms, crabs, ants, and the rest could be leaves.	
X	20	▼ Up here, it looks like a person parachuting down.	You don't really see the top of the chute, just the big lines going up to it, and the fellow is hanging by those lines, like in a parachute.	

I	1	It could be a woman in the center I think, just standing there. That's really all I can see.	Well, actually it's not too good, you can't see a head, these would be the arms, and this is the body part and legs, these bumps up here would be a funny hat, but you can't see the face. (E: You said the bump would be a funny hat?) Yes, sort of a big sun hat I suppose.	
II	2	◄ If you turn it this way, red part looks like a little red bird, like a hummingbird, I think they're red.	Well, it just looks like that to me, like a red hummingbird, see the head is this part (points), and the wing goes back to here, and the little tiny feet are down here.	
II	3	2 puppies with their heads together like they're kissing.	Just the heads here, see the ear, the mouths together kissing, like 2 furry puppies. (E: What makes them look furry?) These lines in here make it look soft like fur.	
III	4	Back to Africa, this looks like 2 cannibals or something, dancing around a cauldron, getting ready to cook something. I don't know what that center is though.	Well it looks like they're getting ready to cook this meat they got hanging up, like some animals that they skinned and hung up. (E: Show me some of the parts do I can see it too). These are the cannibals, I didn't mean cannibals, they eat people, just like natives, they're black and skinny, see the legs and heads, and they've got this codpiece sticking out, and this is the meat hanging up back here behind them, it's skinned meat. (E: Skinned meat?) It's red like meat ready to cook.	
III	5	2 French poodles, like they're a cartoon.	Looks like an ad printed on a cocktail napkin, with the poodles serving drinks, they're standing on their hind legs. (E: You said they're serving drinks?) Well, this is like a table in the middle, like they're picking up something or serving something.	
IV	6	It reminds me of evil, you know bigotry and hatred.	Well, it's all black, to me that symbolizes all of the evil things, like hatred, war, violation of rights, just evil things.	
IV	7	Christ, how about another dead animal, like it was opened up and stretched out to dry.	Well, it just looks like an animal that somebody killed and opened up like this. See, these could the feet, and what left of the head up here. It looks wet, like when you skin an animal, the fur is all wet, see it has the colors and it looks wet the way the lines go.	

IV	8	Top part is an orchid starting to bloom.	Could be a lily with the stem of an orchid, like one of those mixed types of flowers, these are red petals, just this little part here, it's just starting to bloom, it hasn't completely opened up yet.	
V	9	▼ This way I suppose it could be an eagle.	The wings are outstretched like it was in flight, like gliding on the air currents, the head and legs.	
V	10	That looks like some kind of theatrical act, 3 people in costume, it's like 2 of them are leaning back against the one in the middle, it's like he is twirling them around and they each have an arm up behind his head.	The middle one has a hold of the other 2, like he is swinging them around him. They are stiffened out, and each one has an arm raised behind his head, their dresses are billowing out, I've seen something like this in ice shows. (E: I'm not sure I'm seeing it like you, can you help me a little?) Well, the fellow is in the middle, you see mostly his head and legs (points), most of it is the other 2, their legs (D10), and big skirts or costumes, they have a furry appearance, and then up here (Dd34) they have their arms up behind his head, they are lighter than his head, like they're behind. (E: You said their skirt or costumes look furry?) Yes, the shading there gives a furry impression, fur or some material like fur.	
VI	11	◄ If I just use half, it looks like an aircraft carrier in battle.	This is the ship (D4), the flight deck, and the superstructure, and this is the waterline, and out in front is like a splash of water (Dd22), like a bomb just went off.	
VI	12	Top part looks like wings spreading out.	Looks like an artist sketch of a bird flying, with the wings spread out here (Dd22), you can see the shades of blue. (E: Shades of blue?) Maybe a bluejay, the artist used 2 shades of blue.	
VII	13	A woman looking in a mirror and seeing her reflection.	They're the same almost, this one looks a little blurry, the darkness around the edges is more pronounced and the edges here are more precise, see this would be the real one, and this is the mirror image.	
VIII	14	2 people dancing.	Like their hands are out, but they've got their heads turned around, looking at each other, like a Hawaiian dance, these are like their skirts, hula skirts down here (Dd23), and they've got their hair combed way up.	
IX	15	It's like a crashing sound, really loud.	Yes, when I look, it brings to mind a terribly loud sound. (E: I understand that, but I'm not sure what gives that impression.) I suppose all the different colors, great artists often represent sound with color, look at what Disney did in Fantasia, these colors are presented in a way to make a loud crashing-like sound, probably like Handel or Rachmaninoff or Bernstein.	
IX	16	◄ A woman riding a motorcycle.	She's hunched over the handlebars, see here's her head and body, and this pink here is like the exhaust or something. (E: Exhaust or something?) Not exhaust, probably some dirt blowing up behind her, maybe she just dug out and it's a lot of dirt that got thrown up like in a little cloud behind her.	
IX	17	◄ A guy on a motorcycle going up this hill, you can see his head hunched over the handlebars.	The green part is the guy, and here are the wheels of the bike, and this out in front is like sand, all the orange, it's the color of sand, like you have in some hill climbs, like he's zipping up there with his head hunched down.	
X	18	These things here look like flowers, sort of opening up, and these down here looks like green worms, it all looks like a garden setting with little bugs and worms and flowers.	These 3 parts, see the brown and yellow, they're colored like flower buds, the yellow looks like they're attached to this brown, the stem, and down here are the worms, like they're crawling around, they're green ones like in the garden, and the rest is like different kinds of bugs or foliage, just different kinds, that's it.	
X	19	◄ I suppose this could be a brown dog laying down.	Right here (D13), it just looks like a dog laying down, the head and body, and leg outstretched.	
X	20	This looks like a sad rabbit, he's crying, green tears.	His head, it's right here (D5), but he's crying, all this green (D4) is his tears, he's really sad.	

Correction Keys

- In blue : color verbiage that conveys color use
- In green : color verbiage that is only used to identify location
    - Underlined wording : <u>color of location</u> + <u>object</u> = color convergence

CORRECTION KEY – Practice Protocol 2a

I	1	The face of a dog with 4 eyes, he's angry.	Just the dog's head, ears, eyes, 4 of them, a weird dog, he's got his mouth open like he's growling, like a dog does when angry about something.	FMa	Object 1: dog (real animal object) • Angry: emotion described in animalistic fashion, so appropriate = FMa • OBJECT = FMa RESPONSE: FMa
I	2	Like in mythology, a goddess in the middle, and a couple of winged animals on each side.	She's standing here with her hands raised, and the 2 winged animals are on their hind legs, kind of raised up around her, like they're doing what she wants them to, they're like servants. (E: I'm not sure about the animals.) On each side of her, see the wings and the hind legs down here, and the front legs, and heads, they're jumping up because she has raised her arms up, like a signal for them to do so.	Mp.FMa	Object 1: goddess (fictional human object) • Standing: appropriate = Mp • Arms raised: appropriate = Mp • OBJECT = Mp Object 2: winged animals (fictional animal object, permissive context) • On hind legs, raised up: appropriate = FMa • Doing what she wants, like servants, jumping: ok for appropriate = FMa • OBJECT = FMa RESPONSE = Mp.FMa
II	3	◀ This looks like the heads of 2 birds, spitting at each other.	The features look like a bird's face, you know, mouth, nose, and they're spitting at each other, like they're mad at each other and spitting, you can see spit flying there.	Ma.mp	Object 1: bird heads (real animal object) • Spitting: appropriate? = Ma or FMa? ○ Becomes converted to Ma because another movement of the object (mad) is inappropriate and thus coded M • Mad: inappropriate = Ma • OBJECT = Ma Object 2: spit (inanimate object) • Flying: appropriate = mp • OBJECT = mp RESPONSE: Ma.mp
II	4	This part looks like a candle.	Yes, it's long and slender like one, and it looks like the wax is dripping down it. This bottom pat could be the holder that the candle is in.	mp	Object 1: wax (inanimate object) • Dripping: appropriate = mp • OBJECT = mp RESPONSE = mp
II	5	▼ A red-headed man that looks embarrassed.	The eyes, nose, very embarrassed, see the red cheeks and he has his hands up on either side of his face.	Mp	Object 1: man's face (real human object) • Embarrassed: appropriate = Mp • Hands up: appropriate = Mp • OBJECT = Mp RESPONSE = Mp

II	6	2 bears in a circus balancing something on their noses.	The center thing is something they're balancing, and these are the bears, their heads and bodies.	FMa	Object 1: bears (real animal object, but permissive context) • Balancing on nose: ok appropriate because "circus" = FMa • OBJECT = FMa Object 2: something (inanimate object) • No movement verbalised as attributed to the thing RESPONSE = FMa
III	7	It looks like 2 people on a seesaw that has a motor on it so all you have to do is sit there.	Their heads here, and the bodies sitting on this lower part, which is the seesaw, and the engine (D7), and it's going up and down. (E: I'm not sure I see the people correctly.) Their heads, legs, sort of on the board, like squatting.	Mp.ma	Object 1: people (real human object) • Sitting: appropriate = Mp • OBJECT = Mp Object 2: seesaw (inanimate object) • Going up and dow: appropriate = ma • OBJECT = ma RESPONSE = Mp.ma
IV	8	A man riding on a motorcycle.	Here's the man's head and body and legs. (E: And the motorcycle?) Down here, you see the wheel, and these would be the handlebars.	Ma	Object 1: man (real human object) • Riding: appropriate = Ma • OBJECT = Ma Object 2: motorcycle (inanimate object) • No movement verbalised as attributed to moto RESPONSE = Ma
IV	9	Maybe a tree.	It has the general shape of a tree with all the branches hanging down, sort of droopy, like a lot of weight on them (outlines), trunk is here.	mp	Object 1: tree (inanimate object) • Hanging: appropriate = mp • OBJECT = mp RESPONSE = mp
IV	10	A flower up here.	It looks like a flower, the soft petals coming out from the centre. (E: I'm not sure what makes them look soft.) The way the coloring is there, it looks like they would be soft.	(No Mvt)	Object 1: flower (inanimate object) • No movement ("coming out" is a description of form) RESPONSE = No movement coding
V	11	That's Dracula, standing there in his black cloak, ready to fly.	His arms are out, but don't count the ends, and don't count these top things, you can't see his face, he's all in black, stretching his arms out ready to fly and find another victim for his masochism.	Ma	Object 1: Dracula (fictional human object) • Standing = Mp • Ready to fly, arms out, stretching his arms, ready to fly and find victim: ok appropriate for this fictional figure = Ma • OBJECT = Ma Object 2: cloak (inanimate object) • No movement verbalised as attributed to the cloak RESPONSE = Ma
V	12	This is a rabbit doing exercises.	Like he's lifting barbells. (E: I don't think I'm seeing it right, help me.) He's in the middle, see the ears (top) and little skinny legs, and he's trying to lift up these weights, one on each side, they look pretty heavy. (E: Pretty heavy?) Well, they're bigger than he is.	Ma	Object 1: rabbit (real animal object) • Doing exercises, lifting barbells: inappropriate = Ma • OBJECT = Ma Object 2: barbells (inanimate object) • No movement verbalised as attributed to barbells RESPONSE = Ma
VI	13	This is a fist ready to hit something or somebody.	Just that round shape, you know like when you make a fist like to hit something.	Ma	Object 1: fist (real human object) • Ready to hit, make a fist: appropriate = Ma • OBJECT = Ma RESPONSE = Ma
VI	14	It's some little animal like an otter, popping up out of the water.	It looks like the water is splashing. (E: Show it to me like you see it.) Here's the water splashing, like he's popped right up out of it, here's the head, eyes, whiskers.	FMa.ma	Object 1: otter (real animal object) • Popping out = appropriate = FMa • OBJECT = FMa Object 2: water (inanimate object) • Splashing: appropriate = ma • OBJECT = ma RESPONSE = FMa.ma

VII	15	Somebody looking in a mirror and seeing her reflection.	They're the same, this part here and here, this is the person and this (left) is the mirror image of the face, see the nose and chin.	Mp	Object 1: person (real human object) • Looking, seeing: appropriate = Mp • OBJECT = Mp RESPONSE = Mp
VIII	16	Something burning, a bonfire.	Well, it's like flames, it's orange like fire, and the way it's shaped there it reminds me of a bonfire.	ma	Object 1: bonfire (inanimate object) • Burning: appropriate = ma • OBJECT = ma RESPONSE = ma
IX	17	The whole thing could be clouds floating over a mountain, here at the bottom.	These top parts (D3+D1) just look like clouds, kind of shapeless. (E: You said over a mountain?) Just above it, floating by, they cover most of it, you can just see the bottom of it here (D6), the upper part would be covered by the clouds.	mp	Object 1: clouds (inanimate object) • Floating: appropriate = mp • OBJECT = mp Object 2: mountain (inanimate object) • No movement verbalised as attributed to the mountain RESPONSE = mp
IX	18	It just reminds me of happiness and contentment.	All the pretty colors make me think of contentment and happiness, a peaceful picture that gives me a good feeling about myself.	Mp	(Rare case of "emotional experience as a response") • Always M = Mp RESPONSE = Mp
X	19	The whole thing looks like a bunch of insects having a party.	They're all dancing around, looking for fun and food, the blue looks like spiders, little green worms, crabs, ants, and the rest could be leaves.	Ma	Object 1: insects (real animal object) • Dancing around: inappropriate = Ma • Looking for fun: inappropriate = Ma • Looking for food: appropriate = FMa ○ Becomes converted to Ma because another movement of the object (dancing, looking for fun) is inappropriate and thus coded M • OBJECT = Ma RESPONSE = Ma
X	20	▼ Up here, it looks like a person parachuting down.	You don't really see the top of the chute, just the big lines going up to it, and the fellow is hanging by those lines, like in a parachute.	Mp	Objet 1: person (real human object) • Parachuting, hanging by lines: appropriate = Mp • OBJECT = Mp Object 2: chute, lines (inanimate object) • No movement verbalised as attributed to the chute or lines RESPONSE = Mp

CORRECTION KEY - Practice Protocol 2b

I	1	It could be a **woman** in the center I think, just standing there. That's really all I can see.	Well, actually it's not too good, you can't see a head, these would be the arms, and this is the body part and legs, these bumps up here would be a funny hat, but you can't see the face. (E: You said the bump would be a funny hat?) Yes, sort of a big sun hat I suppose.	Mp	Object 1: woman (real human object) • Standing: appropriate = Mp • OBJECT = Mp Object 2: hat • No movement RESPONSE = Mp
II	2	◄ If you turn it this way, red part looks like a little red bird, like a **hummingbird**, I think they're red.	Well, it just looks like that to me, like a red hummingbird, see the head is this part (points), and the wing goes back to here, and the little tiny feet are down here.	(No Mvt)	Object 1: hummingbird (real animal object) • No movement ("the wing goes back to here" is just a description of the form) RESPONSE = No movement
II	3	2 **puppies** with their heads together like they're kissing.	Just the heads here, see the ear, the mouths together kissing, like 2 furry puppies. (E: What makes them look furry?) These lines in here make it look soft like fur.	Ma	OBJECT 1: puppies (real animal object) • Kissing: inappropriate = Ma • OBJECT = Ma RESPONSE = Ma

III	4	Back to Africa, this looks like 2 **cannibals** or something, dancing around a **cauldron**, getting ready to cook something. I don't know what that center is though.	Well it looks like they're getting ready to cook this meat they got hanging up, like some animals that they skinned and hung up. (E: Show me some of the parts do I can see it too). These are the cannibals, I didn't mean cannibals, they eat people, just like natives, they're black and skinny, see the legs and heads, and they've got this codpiece sticking out, and this is the meat hanging up back here behind them, it's skinned meat. (E: Skinned meat?) It's red like meat ready to cook.	Ma.mp	Object 1: cannibals (real human object) • Dancing: appropriate = Ma • Getting ready to cook: appropriate = Ma • OBJECT = Ma Object 2: cauldron • No movement Object 3: meat (inanimate object) • Hanging: appropriate = mp • OBJECT = mp Object 4: codpiece (inanimate object) • No movement ("sticking out" is just a description of form) RESPONSE = Ma.mp
III	5	2 French **poodles**, like they're a **cartoon**.	Looks like an ad printed on a cocktail napkin, with the poodles serving drinks, they're standing on their hind legs. (E: You said they're serving drinks?) Well, this is like a table in the middle, like they're picking up something or serving something.	Mp	Object 1: poodles (real animal object, but artistic representation) • Serving drinks or picking up something on table: inappropriate = Ma • Standing on hind legs: appropriate = FMa ○ Converted to Ma because there is at least one movement coded M for this object (serving drinks) • OBJECT = Ma • BUT artistic rep = converted to Mp RESPONSE = Mp
IV	6	It reminds me of evil, you know bigotry and **hatred**.	Well, it's all black, to me that symbolizes all of the evil things, like hatred, war, violation of rights, just evil things.	Ma	Object 1: hatred (emotional experience as a response) • Emotional experience as a response = always M, here Ma RESPONSE = Ma
IV	7	Christ, how about another **dead animal**, like it was opened up and stretched out to dry.	Well, it just looks like an animal that somebody killed and opened up like this. See, these could the feet, and what left of the head up here. It looks wet, like when you skin an animal, the fur is all wet, see it has the colors and it looks wet the way the lines go.	mp	Object 1: dead animal (inanimate object) • Stretched up to dry = mp • ("it was opened up and stretched out to dry" = past movements = not coded; but it now leaves the skin "stretched out to dry = coded as movement) • OBJECT = mp RESPONSE = mp
IV	8	Top part is an **orchid** starting to bloom.	Could be a lily with the stem of an orchid, like one of those mixed types of flowers, these are red petals, just this little part here, it's just starting to bloom, it hasn't completely opened up yet.	mp	Object 1: orchid (inanimate object) • Starting to bloom: appropriate = mp • OBJECT = mp RESPONSE = mp
V	9	▼ This way I suppose it could be an **eagle**.	The wings are outstretched like it was in flight, like gliding on the air currents, the head and legs.	FMp	Object 1: eagle (real animal object) • Wings outstretched like in flight, gliding: appropriate = FMp • OBJECT = FMp RESPONSE = FMp

V	10	That looks like some kind of theatrical act, **3 people in costume**, it's like 2 of them are leaning back against the one in the middle, it's like he is twirling them around and they each have an arm up behind his head.	The middle one has a hold of the other 2, like he is swinging them around him. They are stiffened out, and each one has an arm raised behind his head, their dresses are billowing out, I've seen something like this in ice shows. (E: I'm not sure I'm seeing it like you, can you help me a little?) Well, the fellow is in the middle, you see mostly his head and legs (points), most of it is the other 2, their legs (D10), and big skirts or costumes, they have a furry appearance, and then up here (Dd34) they have their arms up behind his head, they are lighter than his head, like they're behind. (E: You said their skirt or costumes look furry?) Yes, the shading there gives a furry impression, fur or some material like fur.	Map.mp	Object 1: 2 people (real human object) • Leaning back: appropriate = Mp • Arm up: appropriate = Mp • Stiffened out: appropriate = Mp • OBJECT = Mp Object 2: person (real human object) • Twirling them, has a hold of them: appropriate = Ma • OBJECT = Ma Object 3: dresses (inanimate object) • Billowing: appropriate = mp • OBJECT = mp RESPONSE = Map.mp
VI	11	◀ If I just use half, it looks like an **aircraft carrier** in battle.	This is the ship (D4), the flight deck, and the superstructure, and this is the waterline, and out in front is like a splash of water (Dd22), like a bomb just went off.	ma	Object 1: aircraft carrier (inanimate object) • No movement (or perhaps "in battle" = ma?) Object 2: water (inanimate object) • Splash, like a bomb just went off: appropriate = ma • (the bomb that just went off = past movement of object not seen in card = not coded; but leaves now water in a splash = movement) • OBJECT = ma RESPONSE = ma
VI	12	Top part looks like **wings** spreading out.	Looks like an artist sketch of a bird flying, with the wings spread out here (Dd22), you can see the shades of blue. (E: Shades of blue?) Maybe a bluejay, the artist used 2 shades of blue.	FMp	Object 1: bird (real animal object, but artistic representation) • Wings spreading out, flying: appropriate = FMa • OBJECT FMa • BUT artistic rep = converted to FMp RESPONSE = FMp
VII	13	A **woman** looking in a mirror and seeing her **reflection**.	They're the same almost, this one looks a little blurry, the darkness around the edges is more pronounced and the edges here are more precise, see this would be the real one, and this is the mirror image.	Mp	Object 1: woman (real human object) • Looking, seeing: appropriate = Mp • OBJECT = Mp RESPONSE = Mp
VIII	14	2 **people** dancing.	Like their hands are out, but they've got their heads turned around, looking at each other, like a Hawaiian dance, these are like their skirts, hula skirts down here (Dd23), and they've got their hair combed way up.	Ma	Object 1: people (real human object) • Dancing: appropriate = Ma • Hands out: appropriate = Mp • Looking: appropriate = Mp • Hair combed up (?) • OBJECT 1 = Ma RESPONSE = Ma
IX	15	It's like a **crashing sound**, really loud.	Yes, when I look, it brings to mind a terribly loud sound. (E: I understand that, but I'm not sure what gives that impression.) I suppose all the different colors, great artists often represent sound with color, look at what Disney did in Fantasia, these colors are presented in a way to make a loud crashing-like sound, probably like Handel or Rachmaninoff or Bernstein.	Ma	Object 1: sound (sensory experience as a response) • Sensory experience as a response = always M, here Ma RESPONSE = Ma

IX	16	◀ A woman riding a motorcycle.	She's hunched over the handlebars, see here's her head and body, and this pink here is like the exhaust or something. (E: Exhaust or something?) Not exhaust, probably some dirt blowing up behind her, maybe she just dug out and it's a lot of dirt that got thrown up like in a little cloud behind her.	Ma.mp	Object 1: woman (real human object) • Riding moto: appropriate = Ma • Hunched over: appropriate = Mp • OBJECT = Ma Object 2: motorcycle (inanimate object) • No movement verbalised as attributed to the motorcycle Object 3: dirt (inanimate object) • Blowing up: appropriate = mp • OBJECT = mp RESPONSE = Ma.mp
IX	17	◀ A guy on a motorcycle going up this hill, you can see his head hunched over the handlebars.	The green part is the guy, and here are the wheels of the bike, and this out in front is like sand, all the orange, it's the color of sand, like you have in some hill climbs, like he's zipping up there with his head hunched down.	Ma	Object 1: guy (real human object) • Going up hill, zipping: appropriate = Ma • Hunched over: appropriate = Mp • OBJECT = Ma Object 2: motorcycle (inanimate object) • No movement verbalised as attributed to the motorcycle Object 3: hill (inanimate object) • No movement Object 4: sand (inanimate object) • No movement verbalised as attributed to the motorcycle RESPONSE = Ma
X	18	These things here look like flowers, sort of opening up, and these down here looks like green worms, it all looks like a **garden** setting with little bugs and worms and flowers.	These 3 parts, see the brown and yellow, they're colored like flower buds, the yellow looks like they're attached to this brown, the stem, and down here are the worms, like they're crawling around, they're green ones like in the garden, and the rest is like different kinds of bugs or foliage, just different kinds, that's it.	mp.FMa	Object 1: flowers (inanimate object) • Opening up: appropriate = mp • OBJECT = mp Objet 2: worms (real animal object) • Crawling: appropriate = FMa • OBJECT = FMa RESPONSE = mp.FMa
X	19	◀ I suppose this could be a brown dog laying down.	Right here (D13), it just looks like a dog laying down, the head and body, and leg outstretched.	FMp	Object 1: dog (real animal object) • Laying down, leg outstretched: appropriate = FMp • OBJECT = FMp RESPONSE = FMp
X	20	This looks like a **sad** rabbit, he's crying, green tears.	His head, it's right here (D5), but he's crying, all this green (D4) is his tears, he's really sad.	Mp	Object 1: rabbit (real animal object) • Sad: inappropriate = Mp • Crying: inappropriate = Mp • OBJECT = Mp RESPONSE = Mp

5
Form Dimension
FD

There is only one determinant code in the CS for Form-Dimension, namely FD, which applies when an answer involves dimensionality based on the form or size of objects. (It should be noted right away though that dimensionality can also be based on the shading features of the blot; such cases will be briefly discussed in this chapter to clarify FD coding, but for a complete presentation of Shading coding, see Shading Chapter).

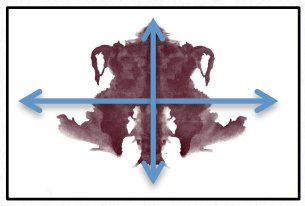
The Verbalization and Coding of Form Dimension (FD)

The first thing to keep in mind when coding Form-Dimension is that there is only coding possible, FD, so it is not necessary to first code each object separately. FD will be entered in the final coding of an answer whether it applies to only a small part of an object, many objects, or the entire response.

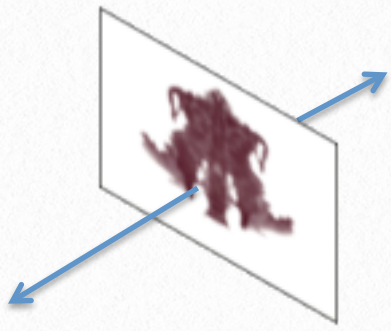
For a response to qualify for FD coding, the subject must (1) verbalize an impression of dimensionality, and (2) justify it by refering to form or size of objects (and NOT by refering to shading, i.e. the dark and/orlight features of the blot).

Dimensionality

Dimensionality means that, instead of seeing an answer in «2D», the subject is seeing an answer in «3D». This third dimension is best thought of as axis that is perpendicular to the card («going-through» the card).



2 dimensions



3rd dimension

For example, on card IV, subjects often report a humanoid figure. In doing so, they could only describe it in 2D, as in «it has big feet here, and a very small head up here» (no dimensionality). But they could also construct dimensionality by describing at «the feet are sticking out towards me and the head looks far back», where they are describing the figure on an axis that is «going-through» the card (dimensionality).

Of course, the cards are in 2D, and the great majority of time, subjects will describe their answers in 2D. Dimensionality MUST NOT BE INFERED, it must be explicitely verbalized by the subject. Impressions of dimensionality include reporting 3D objects, depth, perspective, distance, and double layers. Each of these types of dimensionality will be presented in details later in this chapter, but beforehand, two general warnings are warranted.

«Dimensionality Based on FD» vs «Dimensionality Based on Shading-Vista»

The first difficulty in identifying instance of FD coding is that the same impressions of dimensionality can also be based on the dark and/or light features of the blot, in which case a Shading-Vista coding (FV, VF, V) is warranted (instead of a FD coding). (See the following Transversal Coding Note for more information on the verbalization and coding of Shading). So, coders must be vigilant to how subjects verbalize impressions of dimensionality, and cases of Shading-Vista should first be excluded before considering coding FD. .

Once a case of dimensionality has been identified, the following procedure should be followed to determine the proper coding:

- If subjects **refer in any way to shading features** when verbalizing dimensionality, a **Shading-Vista** coding must be applied.
    - Shading verbiage will often include directly the words «dark» or «light/pale».
    - But sometimes the wording can be more vague, such as «the color is uneven», «the variations in the color» or «the way the colors are here».
- **Only if subjects do NOT refer in any way to shading features** is a **FD coding warranted**.
    - In most FD cases, subjects will refer directly to the shape or size of the object(s).
    - Sometimes, there is no clear reference to shape or size of the object(s), but dimensionality is clearly present and shading verbiage is absent. The default coding here is FD.

Going back to the example of dimensionality presented earlier (humanoid figure on card IV), here's two different verbalizations that would warrant different codings:

- Ex: *a monster leaning back, it's like his feet are sticking out towards me and the head looks far back, because the head is lighter so it looks far back, whereas the feet are darker*
    - = Dimensionality based on Shading-Vista (references to shading: «lighter», «darker»)
- Ex: *a monster leaning back, it's like his feet are sticking out towards me and the head looks far back, because the feet are so much bigger they look closer, wheras the head is so small it looks way back*
    - = Dimensionality based on FD (references to size of elements: «bigger» and «small»)

Transversal Coding Note

A Note on Shading Coding

The Verbalization and Coding of Shading

To code for Shading, two elements are required in the verbalisations.

(1) The first element required is a verbalization of **Shading use**, where subjects must refer to the dark and/or light features of the blot.

- Very often, subjects will directly use wording that include the words «dark» or «light/pale».
- But sometimes the wording can be more vague, such as «the color is uneven», «the variations in the color» or «the way the colors are here».

(2) The second element required is a verbalization of the **shading «effect»**, where subjects must mention the impression that the shading use has created for them, namely a tactile texture effect, a dimensionality effect, or other effects. These various effects correspond to three types of Shadings, respectively «Shading-Texture» (associated with the symbol «T»), «Shading-Vista» (associated with the symbol «V») and «Shading-Diffuse» (associated with the symbol «Y»).

- Then, all Shading codings must also be weighted by the level of Form use also involved in the object, leading to three possible codes for each type of shading (ex: FT, TF, T). The evaluation of the levels of Form use for Shading coding follows the same rules as previsouly described for Color coding, with the exception that the step-down principle does not apply. (For a review on «Levels of Form Use», see chapter 2 p.2-3 and chapter 3 p. 4-8).

In conclusion:

- If Shading use leads to a tactile texture impression = **Shading-Texture (FT, TF, T)**
  - Ex: *soft* fur, *the way the coloring is*, like very *light*, it makes it look very *soft* (rubs card)
- If Shading use leads to a dimensionality impression = **Shading-Vista (FV, VF, V)**
  - Ex: a *deep* ditch, see it gets *darker* in the middle, like it's *deeper*
- If Shading use leads to any other impression = **Shading-Diffuse (FY, YF, Y)**
  - Ex: a seal skin, the *variations in colors* give it a *pattern*

This is the type of Shading easily confused with FD

«Dimensionality» vs «No Dimensionality»

The second difficulty in coding FD is that, sometimes, the wording used to convey dimensionality may also be used in other instances to simply describe objects in 2D (thus NOT conveying dimensionality). The distinction often comes down to how exactly the object is seen on the card, and coders must be **careful** to **consult the location** sheet in order to **insure a correct view of the object**.

Keeping in mind the example of dimensionality presented earlier (humanoid figure on card IV), here's a similar answer on card IX that also employs the words «leaning back» BUT with no dimensionality involved:

- Ex (card IV): *a witch leaning back, see how the back is arched*
  - = No dimensionality (when looking at the location, one sees that the «leaning back» is simply «sideways» on the card, and NOT on an axis that «goes-through» the card)

Types of Dimensionality

Keeping in mind these two warnings, the main cases of «dimensionality based on FD» are discussed below. Each type of dimensionality is described and illustrated with examples, and counter-examples that DO NOT warrant FD coding are also presented for comparison.

(1) Perspective

The purest forms of dimensionality based on FD is when there are **associations** between **size** and **distance**. One such cases is when objects are seen in perspective (i.e. objects seen in an **angle that receeds in the distance**) BECAUSE bigger elements translate as closer and smaller elements translate as further. Most often, the dimensionality will be conveyed by wording such as «in perspective», «at an angle», «looking up at him» or «he's leaning back», AND the dimensionality will be justified with associations of «bigger = closer» and «smaller = farther».

- Ex: *a tree seen in perspective, the trunk is really big so it looks real close, but the foliage area is small, like farther away*
    - = FD

Similar... but No FD:

- The mere mention of something being «bigger» or «smaller» than something else, or «closer» or «farther» than something else, is not sufficient to convey dimensionality; there must be an association between «bigger = closer» and «smaller = farther».
    - Ex: *a bunch of seahorses, some bigger here in pink, and some smaller here in green*
        - = No FD (no dimensionality, just a description of the relative size of objects in 2D, no implication of distance)
    - Ex: *two rabbits, one on each side, the back paws are bigger than the front paws*
        - = No FD (no dimensionality, just a description of the relative size of elements in 2D, no implication of distance)
    - Ex: *a bunch of insects eating a carcass, the carcass is here in pink, and the insects are all around, some are closer to the carcass and some are farther from it*
        - = No FD (no dimensionality, just a description of the relative position of objects in 2D, the «distances» evoked are not in 3D)
- Expressions such as «leaning back» or «at an angle» can also apply to 2D answers, if the so-called «angle» goes side-to-side on the card (instead of «going-through» the card). Look at the location!
    - Ex (card I): *two witches on the side, it's like they're leaning back, away from each other*
        - = No FD (no dimensionality, the «angle» goes sideways on card, and not through)
- Although extremely rare, a «perspective» effect could theoretically be based on shading (for example, by saying that something looks further because it is pale and closer because it is darker). And if the verbalization of the perspective effect refers in any way to shading, FD can not be coded. Only when there is no shading verbiage is FD warranted.

(2) Distance

An **association** between **size** and **distance** can also simply lead to an impression of **distance**, where an object is seen as «far away», «off in the distance», «looking down at it from high up / from a plane / frome a bird's eye view» BECAUSE it is small (or, in rare cases, «very close» because it is «big»). Here, the «small = far» object is not compared to a «big = close» object, but the mere verbalization of an association between «small» and «far» is enough to qualify for dimensionality based on FD.

- Ex: *a castle, it's so small like way off in the distance*
    - = FD

Similar... but No FD:

- The mere mention of something being «small» or «big» is not sufficient to convey dimensionality; there must be an association between «small = far».
    - Ex: *an alien butterfly, the big wings on the side, it's looks so big it must from another world, we don't have butterflies this big here*
        - = No FD (no dimensionality, being «big» is not associated with being «close»)
    - Ex: *it's a microscopic fish, it is so small*
        - = No FD (no dimensionality, being «small» is not associated with being «far»)
- Expressions such as «looking down at it from a bird's eyeview» can also apply to 2D answers, as subjects will often say that to situate the point of view from which they are seeing an object (with no implication on distance of object). Look at the location!
    - Ex: *a butterfly in flight, like looking down at it from a bird's eye view, with the wings outstretched on the sides*
        - = No FD (no dimensionality, the subject is merely describing a «top view» with no implication that the butterfly is «far»)
- Although extremely rare, a «distance» effect could also theoretically be based on shading (for example, by saying that something looks far away because it is pale). And if the verbalization of the distance effect refers in any way to shading, FD can not be coded. Only when there is no shading verbiage is FD warranted.

(3) Depth

Another type of dimensionality based on FD is when the **shape** of elements translate in an impression of depth. This is often the case for **concave** objects (ex: ravin, canyon, ditch, hole, etc.), often described as «deep» or «hollow», BECAUSE «it seems to go in», «like it's back in». Although very rare, depth could also be involved in convex objects (ex: moutain, hill, etc.) which could be described as «coming out» or «proturding».

- Ex: *a deep ditch in a field, it's really looks like it's back in*
    - = FD

Similar... but No FD:

- The mere mention of a concave or convex object is NOT sufficient to convey dimensionality; the «depth» effect based on elements of shapes must also be verbalized. Even expressions such as «deep» or «hollow» can also apply to 2D answers, if the so-called «depth» goes top-to-bottom on the card (instead of «going-through» the card). Look at the location!
  - Ex (card IX): *two guys standing on each side of a precipice, here are the 2 guys on each side, and the precipice is here in the center, it looks deep, see how it goes way down*
    - = No FD (no dimensionality, just a description of a 2D precipice that «goes down» from top-to-bottom on the card, and does not «go-through» the card in 3D)
- The «depth» effect is often based on shading, where darker generally translates as deeper. And if the verbalization of the depth effect refers in any way to shading, FD can not be coded. Only when there is no shading verbiage is FD warranted.
  - Ex: *a deep ravin, where it gets darker it looks like it's going in deeper*
    - No FD (there is dimensionality, but coded as Shading-Vista)

(4) Double Layers

Another type of dimensionality based on FD is when a response involves **objects distributed on two (or more) «layers»**, some elements being in the **forefront**, and other objects being in the **background**. The mere mention of this **organisation**, using wording such as «is in the background» or «is in front of», is sufficient to qualify for FD.

- Ex: *it's 2 people in a garden, the people are here in pink, and the rest is like a garden in the background, with lots of flower of different colors*
  - = FD

But, most often, this organisation will also involve some of the «back elements» being partly **hidden** by some of the «front elements». In such cases, the subject will clearly verbalize that «we can only see part of that (in the back)» BECAUSE «the rest is hidden by this (in the front)» or «this (in the front) covers it».

- Ex: *it's a grizzly hidding behind a big tree, you can only see the paws of the grizzly sticking out here, the rest of his body is covered by this huge green tree*
  - = FD

And sometimes, the front layer is **translucent** so that the back object can be seen through it. In such cases, the subject will generally use directly the words «translucent» or «see-through» and describe the shape of the object that is seen «through» the first layer.

- Ex: *a woman in a negligee, here's the shape of the skirt and you can see the shape of her legs through the skirt*
  - = FD

Similar.. but No FD:

- The mere mention of «seeing only a part of an object» or of «one part that you can't see» is NOT sufficient to convey dimensionality; this must be BECAUSE it is partly covered by another object.
  - Ex: *the upper part of a woman, from the waist up, see here the waist, her arms and her head*
    - = No FD (no dimensionality, subject has just chosen to report a partial object in his answer)
  - Ex: *it's a monster seen from the back, you don't see its face*
    - = No FD (no dimensionality, the part that can't be seen is simply because of the position of the object, and not because another object is in front of it)
- Expressions such as «in front» or «in back» can also apply to 2D answers, if these expressions describe a layout that goes side-to-side on the card (instead of back-to-front on the card»). Look at the location!
  - Ex (card III): *two woman leaning over a big pot in front of them*
    - = No FD (no dimensionality, just a description of a 2D layout that goes side-to-side on the card, and does not «go-trough» the card in 3D)
- A «double layer» effect could also be based on shading, particularly the «translucent» effect is often based on light features of the blot. And if the verbalization of the double-layer effect refers in any way to shading, FD can not be coded.
  - Ex: *It's a woman in a negligee, the skirt is very pale, like see-through, you can see her legs in it*
    - = No FD (there is dimensionality, but coded in Shading-Vista)

(5) 3D Objects

One last type of dimensionality based on FD is when subjects report 3D objects, where they will either name or describe a 3D shape (ex: «sphere», instead of «circle») or they will show the 3D effect with their non-verbal behavior (ex: making a cup shape with hands). Such objects could warrant a FD coding if there is no reference to shading.

- Ex: *a balloon, really round, like all around (gestures 3D with hands)*
  - = FD

Similar... but No FD:

- The mere mention of an object being «round» or «a ball» is NOT sufficient to convey dimensionality; these words are very often used to simply describe 2D objects. ONLY if a 3D effect is otherwise conveyed (by the description of the shape or non-verbal behavior) can FD be coded.
  - Ex: *a ball of cotton, it's round and pink*
    - = No FD (no dimensionality, just a naming and description of a 2D object)
- The «3D object» effect is often based on shading, where the gradient of shading from lighter to darker translates to the shape being seen in 3D. And if the verbalization of the depth effect refers in any way to shading, FD can not be coded. Only when there is no shading verbiage is FD warranted.
  - Ex: *a balloon, really round, it's lighter in the middle and at the top and darker at the bottom, it really looks rounded all over*
    - = No FD (there is dimensionality, but coded as Shading-Vista)

Here's a summary table of the different types of dimensionality based on FD. **Do NOT FORGET** that there are often **similar examples that DO NOT warrant FD coding**, and **consult the pertinent text section** for these **counter-examples**.

Dimensionality	Description	Example = FD
Perspective	Objects seen in an angle that receeds in the distance, often described as «at an angle», «in perspective», or «leaning back» This effect is due to size of elements («bigger = closer» and «smaller = further»)	Ex: a tree seen in perspective, the trunk is really big si it looks real close, but the foliage area is small, like further away
Distance	Objects described as being far away, often described as «in the distance», «looking down at it», «at a bird's eye view» This effect is due to size of object («small = far»)	Ex: a castle, it's so small like way off in the distance
Depth	Concave (or convex) objects often described as «deep», «hollow», «going in», «it's back in» This effect is due to shape of object	Ex: a deep ditch in a field, it's really looks like it's back in
Double layers	Objects distributed on 2 layers, often described as «in front of» or «in background», and sometimes front object is «hiding/covering» part of back object so that parts «can't be seen», or front object is «translucent» so that back object is «seen through» This effect is due to the organisation of the various objects on the blot	Ex: it's 2 people in a garden, the people are here in pink, and the rest is like a garden in the background, with lots of flower of different colors Ex: it's a grizzly hidding behind a big tree, you can only see the paws of the grizzly sticking out here, the rest of his body is covered by this huge green tree Ex: a woman in a negligee, here's the shape of the skirt and you can see the shape of her legs through the skirt
3D objects	Objects named or described as 3D shapes (instead of 2D), often with non-verbal behavior showing 3D effect This effect is due to shape of object	Ex: a balloon, really round, like all around (gestures 3D with hands)

CHAPITRE 5 - CONCLUSION

Conclusion

Les précédents travaux soulèvent plusieurs pistes de réflexions, plus précisément en ce qui concerne : (1) le niveau d'exactitude des utilisateurs du Rorschach-SI, et (2) la qualité de l'information de cotation pour le Rorschach-SI.

1. Le niveau d'exactitude des utilisateurs du Rorschach-SI

Tel qu'expliqué en introduction de cette thèse, un niveau suffisant d'exactitude de la cotation est capital au Rorschach-SI puisqu'il est garant de la validité de l'interprétation. Il apparait donc très important de pouvoir démontrer que les utilisateurs du Rorschach-SI possèdent ce niveau suffisant d'exactitude de la cotation. Or, certaines études présentent des résultats très positifs suggérant un niveau d'exactitude suffisant chez les utilisateurs du SI (notamment, Hilsenroth et al., 2007), alors que d'autres études présentent des résultats inquiétants suggérant plutôt un niveau d'exactitude nettement insuffisant (notamment, Guarnaccia et al., 2001).

Compte tenu du petit nombre d'études disponibles à ce jour sur l'exactitude de la cotation, il apparait actuellement impossible de statuer clairement sur le niveau d'exactitude des utilisateurs du Rorschach-SI. Toutefois, le portrait éclaté des taux d'exactitude fourni par ces études mérite d'être discuté plus avant et invite à se questionner sur les facteurs explicatifs. Les travaux de cette thèse ont permis de mettre en lumière trois facteurs importants qui varient entre les diverses études et qui pourraient contribuer aux différences observées dans leurs résultats : les méthodes de calcul des taux d'exactitude, le niveau de difficulté des protocoles, et la qualité de l'enseignement.

1.1 Les différences de méthodes de calcul des taux d'exactitude

Les travaux de cette thèse ont contribué à mettre en lumière un premier phénomène important dans la mesure de l'exactitude de la cotation au Rorschach-SI, soit l'utilisation d'une multiplicité de méthodes de calcul affectant différemment les taux d'exactitude obtenus.

D'abord, la revue de littérature dans le premier article de cette thèse a montré que les études existantes sur l'exactitude de la cotation avaient utilisé des méthodes différentes de calcul, rendant les résultats difficilement comparables et expliquant possiblement les différences parfois importantes entre les résultats des diverses études. En effet, à titre de rappel, trois études antérieures sur l'exactitude de la cotation ont été identifiées : (1) Exner (1988) rapporte des taux d'exactitude variant de 71,3% à 90,7% (et ce, en omettant certains types d'erreurs), et juge ces résultats « inquiétants »; (2) Guarnaccia et al. (2001) rapportent des taux variant de 36,9% à 97,5%, avec six de neufs segments sous la barre du 80%, et concluent à un problème majeur requérant une certification pour l'utilisation du SI; et (3) Hilsenroth et al. (2007) rapportent des taux variant entre 65% et 99% et entre k 0,56 et k 0,98, avec seulement deux de neufs segments sous la barre du niveau « excellent », et concluent à un niveau d'exactitude suffisant suite à une formation de base.

Cependant, tel qu'il a été montré dans le premier article, ces diverses études ont utilisé des méthodes de calcul des taux d'exactitude très différentes en termes (1) de la pondération attribuée à divers types d'erreurs, et (2) de la base de référence pour le calcul d'exactitude (en nombre de réponses ou en nombre de cotes). Plus précisément, dans Hilsenroth et al. (2007) toutes les erreurs semblent avoir été traitées sur le même pied d'égalité, alors que dans Guarnaccia et al. (2001) les erreurs d'inversion de forme dans la cotation des déterminants ont

été traitées comme des « demi-erreurs », et dans Exner (1988) les erreurs de niveaux de forme dans la cotation des déterminants, les erreurs de qualificatifs a/p dans la cotation des mouvements et les erreurs de niveaux de sévérité dans la cotation des scores spéciaux n'ont tout simplement pas été tabulées. De leur côté, Exner (1988) et Guarnaccia et al. (2001) ont calculé les taux d'exactitude en termes de nombre de cotes exactes (sans égard à leur combinaison dans une même réponse), alors que Hilsenroth et al. (2007) ont calculé les taux d'exactitude en termes de nombre de réponses exactes (l'exactitude portant sur la séquence entière de cotes lorsqu'applicable).

Dans le premier article, différentes méthodes de calcul des taux d'exactitude ont été appliquées aux données, ce qui a permis de démontrer empiriquement que différentes méthodes de calcul peuvent effectivement générer des taux d'exactitude non comparables. D'abord, tel que présenté dans les résultats du premier article, les méthodes de calcul de Guarnaccia et al. (2001) et Hilsenroth et al. (2007) ont généré des taux d'exactitude respectivement de 47,9% et 22,9% lorsqu'appliquées sur le même échantillon de cotations. Des calculs additionnels, non-inclus dans le premier article, ont aussi été effectués afin de vérifier l'effet de diverses pondérations des erreurs sur le taux d'exactitude obtenu. Plus spécifiquement, un taux d'exactitude a été calculé (1) en considérant toutes les erreurs également, (2) en considérant seulement les erreurs d'inversion de forme dans la cotation des déterminants comme des « demi-erreurs », et (3) en considérant toutes les erreurs de niveaux de forme dans la cotation des déterminants et de qualificatifs a/p comme des « demi-erreurs ». Lorsqu'appliquées sur un même échantillon de cotations, ces différentes pondérations n'ont généré que de petites différences de 5,3% ou 4,5% dans les taux d'exactitude, comparativement aux grandes

variations engendrées par l'usage des méthodes de calcul basées sur le nombre de réponses versus sur le nombre de cotes.

1.2 Les différences de niveau de difficulté des protocoles

Les travaux de cette thèse ont aussi contribué à mettre en lumière un deuxième phénomène important dans la mesure de l'exactitude de la cotation au Rorschach-SI, soit les variations dans les niveaux de difficulté des protocoles utilisés dans les diverses études.

Le degré de difficulté des protocoles est un facteur qui a évidemment une incidence importante sur les taux d'exactitude obtenus, en particulier pour les méthodes de calcul basé sur le nombre de réponses (comme dans Hilsenroth et al. 2001) qui sont plus sensibles au nombre de « mélanges » (*blends*). Et comme il a été démontré dans la première étude de cette thèse, les protocoles de Hilsenroth et al. (2007), même si ils étaient évalués à un degré de difficulté de 72% par des experts, étaient beaucoup plus faciles que ceux de Guarnaccia et al. (2001), du moins en ce qui concerne la cotation des déterminants (avec 1,5 déterminant/réponse pour les protocoles de Hilsenroth et al., 2007 versus 2,9 déterminants/réponse pour les protocoles de Guarnaccia et al., 2002).

Si les protocoles de Hilsenroth et al. (2007) et Guarnaccia et al. (2001) diffèrent en niveau de difficulté, il reste alors à se demander ici quel est le niveau de difficulté à privilégier dans les études d'exactitude de cotation. Et la réponse s'impose d'elle-même : le niveau de difficulté à privilégier est celui du protocole clinique moyen. Afin de dégager le nombre moyen de déterminants par réponse dans un protocole clinique moyen, une recension de tous les protocoles cliniques publiés dans les *TRACS* (Exner, 2003, 2005) a été effectuée. Sur un total de 17 protocoles disponibles, le nombre moyen de déterminants par réponse est de 1,5. Par

comparaison, les protocoles de Guarnaccia et al. (2001), avec leur moyenne de 2,9 déterminants/réponse, apparaissent être beaucoup trop difficiles, tout comme les protocoles utilisés dans les études de cette thèse, avec leur moyenne de 2,1 déterminants/réponse. Et, dans ce contexte, ce sont les résultats de Hilsenroth et al. (2007) qui apparaissent les plus écologiquement valides.

1.3. Les différences de qualité d'enseignement

Les travaux de cette thèse ont aussi contribué à mettre en lumière un troisième facteur explicatif des différences observées entre les résultats des diverses études sur l'exactitude de la cotation du Rorschach-SI, soit les variations dans la qualité de l'enseignement.

En effet, tel que le suggère la deuxième étude de cette thèse, l'enseignement reçu peut avoir un effet notable sur le taux d'exactitude obtenu. Il apparait donc plausible qu'une meilleure qualité d'enseignement puisse générer de meilleurs taux d'exactitude. Et on trouve justement là le principal argument avancé par Hilsenroth et al. (2007) pour expliquer le grand écart entre leurs résultats et ceux de Guarnaccia et al. (2001). Plus précisément, Hilsenroth et al. (2007) soulignent les caractéristiques distinctives suivantes de leur programme de formation : informer les étudiants dès le départ qu'un niveau d'exactitude supérieur à 80% est requis pour réussir la formation / le cours, réviser en classe des exemples et contre-exemples de cotations, appliquer la cotation d'une manière « verticale » (par exemple, coter le segment Localisation pour toutes les réponse, puis passer à un autre segment) plutôt qu'horizontale (par exemple, coter tous les segments de la première réponse, puis passer à une autre réponse), etc. Or, tel que mentionné dans le premier article, les différences évoquées par Hilsenroth et al. (2007) n'apparaissent pas suffisantes pour expliquer l'ampleur de l'écart entre leurs résultats et ceux

de Guarnaccia et al. (2001). Cependant, la deuxième étude de cette thèse souligne bien que la qualité de l'enseignement est un facteur qui peut impacter significativement les taux d'exactitude obtenus chez des étudiants au Rorschach-SI.

1.4 La complexité de la cotation au Rorschach-SI

Avant de conclure sur le sujet du niveau d'exactitude des utilisateurs du SI, certaines considérations additionnelles s'imposent. En effet, si certaines des réflexions qui précèdent laissent croire que les résultats « encourageants » de Hilsenroth et al. (2007) puissent représenter le réel niveau d'exactitude des utilisateurs du SI, il convient toutefois de faire preuve de prudence, car l'obtention de taux d'exactitude supérieurs à 80% chez des étudiants suivant une formation de base à la cotation du Rorschach-SI (tel que dans Hilsenroth et al., 2007) reste tout de même plutôt surprenant.

Tout d'abord, les utilisateurs du Rorschach-SI se déclinent en deux classes : les étudiants débutants et les cliniciens expérimentés. Il convient de se demander si le même standard d'exactitude peut être attendu dans les deux cas. En effet, s'il apparait justifié de s'attendre à ce que des cliniciens ayant des années d'expérience dans l'utilisation du Rorschach-SI puissent montrer un taux d'exactitude supérieur à 80%, il apparait plus difficilement concevable de s'attendre au même standard chez des étudiants débutants ayant seulement suivi une formation de base (aussi excellente soit-elle!). Le parcours typique vers une maitrise avancée du Rorschach implique habituellement non seulement une formation de base, mais aussi de nombreuses autres expériences qui viennent au fil des années complémenter et enrichir les connaissances sur la cotation, tel que suivre d'autres formations plus avancées (dans le programme d'études, auprès de *Rorschach Workshops / Rorschach Training Programs*, ou

offerte par des psychologues qualifiés), travailler sur un projet de recherche lié au Rorschach, utiliser le Rorschach en stage, approfondir les connaissances de façon autodidacte en complétant tous les exercices de pratique, etc. L'intérêt grandissant pour le Rorschach amène aussi souvent le passionné à se lier à d'autres rorschachers pour partager des idées et en discuter. L'étudiant débutant n'a donc qu'une formation de base, qui n'est donc aucunement équivalente au bagage d'expériences du clinicien expérimenté.

De plus, il convient de rappeler ici que la cotation au Rorschach-SI est une tâche complexe et réputée « laborieuse » dans la littérature. Il existe plus de 80 cotes, chacune ayant leurs propres fondements conceptuels et nuances d'application, et le nombre de cas de figures qu'il est possible de rencontrer pour l'application de la cotation est donc potentiellement infini. La quantité d'informations à assimiler pour bien maitriser la cotation est impressionnante et il apparait difficile de penser qu'une telle quantité d'informations puisse être assimilée en une seule brève période de temps.

Or, les formations de base au Rorschach sont généralement assez brèves. Par exemple, la formation de base de *Rorschach Training Programs* est d'une durée de 35h (Hilsenroth, 2007). Cependant, cette formation ne porte pas seulement sur la cotation au Rorschach-SI, mais aussi sur l'administration et l'interprétation du test. La portion des heures de formation dédiées à la cotation est difficilement estimable sans une description plus détaillée du contenu de chaque séance de formation. La formation à la cotation du Rorschach-SI donnée dans l'étude de Guarnaccia et al. (2001) est de 25h et celle dans l'étude Hilsenroth et al. (2007) est de 27h. Dans une autre publication, Hilsenroth, Charnas et Zodan (2007) y proposent un programme de formation à la cotation du Rorschach-SI d'une durée d'environ 25h. Leur description détaillée du contenu de chaque séance permet de constater que seulement environ

10h (4 séances de 2,5h) des 25h (10 séances de 2,5h) de formation ont été consacrées à la cotation des déterminants, ce qui rejoint la durée de 11h dévolue à la cotation des déterminants dans le premier article. Des formations aussi brèves apparaissent insuffisantes pour permettre la pleine maitrise de toute l'information nécessaire pour la cotation des déterminants du Rorschach-SI.

En conclusion, les commentaires qui précèdent ne suffisent toutefois pas à clore le sujet du niveau d'exactitude de cotation chez les utilisateurs du Rorschach-SI. Certaines contributions spécifiques pourraient d'abord aider l'évolution des connaissances sur l'exactitude de la cotation, en particulier l'établissement d'une liste de critères permettant de sélectionner des protocoles dont le degré de difficulté est similaire à celui du protocole clinique moyen, et une révision critique des pratiques statistiques dans la mesure des taux d'exactitude afin de déterminer les pratiques à privilégier et tendre vers une uniformisation qui pourrait permettre mieux comparer les études entre elles. Mais, surtout, plus d'études sont nécessaires pour que puisse se dresser un portrait plus cohérent du niveau d'exactitude des utilisateurs du Rorschach-SI.

2. La qualité de l'information de cotation pour le SI

Les travaux de cette thèse apportent aussi plusieurs pistes de réflexion intéressantes concernant la formation des étudiants à la cotation du Rorschach-SI. En effet, l'étudiant qui fait l'apprentissage de la cotation du Rorschach-SI est exposé à de l'information de cotation via deux voies : une voie écrite, le manuel de référence utilisé, et une voie orale, l'enseignement reçu. Ce qui laisse les questions suivantes : mais quelles sont donc les qualités d'un bon

enseignement et quelles sont donc les qualités d'un bon manuel? Les travaux de cette thèse apportent des contributions à ces deux questions.

2.1 Les qualités d'un bon enseignement

Récemment, la formation universitaire au Rorschach-SI a fait l'objet d'un intérêt particulier dans la littérature. De nombreuses études présentent les résultats de sondages qui documentent la place du Rorschach dans les programmes d'études graduées en psychologie. Ce type de sondages informe sur la proportion des étudiants gradués qui suivent une formation au Rorschach-SI dans leur programme universitaire (par exemple, Hilsenroth (1994) rapporte que c'est le cas pour 49% des étudiants gradués) ou sur le nombre moyen de protocoles cotés (par exemple, Hilsenroth (1994) rapporte que 49% des étudiants gradués cotent moins de quatre protocoles durant leur formation universitaire). Cependant, ces sondages donnent peu d'informations sur les techniques pédagogiques impliquées dans l'enseignement du Rorschach.

À ce sujet, certaines suggestions d'ordre général peuvent être trouvées dans la littérature. Par exemple, dans *Teaching and Learning Personality Assessment*, Handler & Hilsenroth (1998) expliquent que : « Comme dans l'enseignement d'autres procédures complexes, une pédagogie efficace peut aider les instructeurs à produire des étudiants capables et dévoués à la méthode du Rorschach. Trois techniques qui aident souvent à clarifier et enrichir la présentation du Rorschach-SI consistent en : (1) élucider les bases conceptuelles du schème de cotation, (2) procurer des exemples prototypiques de cotes alternatives, et (3) traduire l'interprétation dans un langage simple et dans des exemples de la vie de tous les jours (Weiner, 1998).

Tel que mentionné précédemment, dans leur étude, Hilsenroth et al. (2007) présentent aussi certaines des caractéristiques distinctives de leur formation, qui informent sur certaines méthodes pédagogiques utilisées : une exigence explicite d'un taux d'exactitude de 80% pour la réussite du cours, la révision d'exemples positifs, négatifs et ambigus pour les diverses cotes, la révision hebdomadaire des cotations faites par les étudiants sur trois protocoles, un apprentissage « vertical » progressif plutôt qu'« horizontal », etc.

À un niveau général, une première contribution de la deuxième étude de cette thèse est de montrer que la qualité de l'enseignement oral peut complémenter, voire pallier, aux limitations d'une source écrite. Mais surtout, les travaux de cette thèse ont invité l'auteure du nouveau manuel et instructrice des formations à réfléchir aux facteurs qui contribuent à la qualité de l'enseignement de la cotation au Rorschach-SI, avec les conclusions suivantes.

Tout d'abord, il semble possible que le processus d'apprentissage de la cotation au Rorschach-SI procède davantage par « étapes », limitées par un « effet-plafond ». En effet, plusieurs éléments supportent cette hypothèse. Premièrement, les résultats de la première étude de cette thèse ont révélé la fréquence très élevée d'erreurs « inexplicables ». Or, beaucoup de ces erreurs sont apparues frappantes justement parce que l'information de cotation qui aurait permis de ne pas les faire était clairement présentée dans le manuel utilisé par les étudiants et avait aussi été discutée en classe. Ce constat souligne la différence importante entre l'exposition à l'information et l'intégration de l'information dans un processus d'apprentissage et invite à penser qu'il existe donc probablement une limite dans la quantité d'information de cotation qu'un étudiant peut assimiler en une période de temps donnée. C'est cette constatation qui a mené au développement d'une méthode dite « en profondeur » pour la deuxième étude,

où l'information de cotation était présentée et discutée en classe deux fois plutôt qu'une, permettant davantage de répétition sur une plus longue période de temps.

Des analyses additionnelles, non-présentées dans les articles de cette thèse, ont aussi été effectuées afin de comparer les taux d'exactitude obtenus par les étudiants de la première étude, qui ont reçu une formation « standard », à ceux des étudiants de la deuxième étude, qui ont reçu une formation « en profondeur » où le temps passé sur chaque catégorie de déterminants est le double de celui de la formation « standard ». Les résultats ont montrés des taux d'exactitude plus élevés pour toutes les cinq catégories de déterminants concernées chez les étudiants ayant suivi une formation « en profondeur » que chez ceux ayant suivi une formation « standard », ces différences étant significatives pour trois des cinq catégories de déterminants. Ces résultats suggèrent que, effectivement, l'augmentation du nombre de répétitions et de la période de temps à passer sur un même sujet de cotation semble favoriser l'apprentissage de la cotation.

De plus, des taux d'exactitude très similaires (autour de k 0,60) ont été trouvés dans tous les groupes de la deuxième étude ayant accès à l'information du nouveau manuel via la voie écrite et/ou orale (excluant le groupe « Manuel Standard » dans la condition « Sans Enseignement »). Et ce résultat pourrait refléter un « effet plafond », tel que suggéré plus haut. L'existence d'un tel « effet plafond » impliquerait donc que les taux d'exactitude des étudiants en formation au Rorschach-SI ne peuvent refléter la qualité du manuel utilisé que jusqu'à un certain point. Mais, surtout, cela met en lumière l'importance de pratiques pédagogiques qui favorisent l'intégration des connaissances. En plus des facteurs relevés plus haut, c'est-à-dire la répétition et le temps, le principal facteur relevé par l'instructrice comme apparaissant particulièrement aidant pour les étudiants au SI a été la structure de l'information de cotation. En effet,

l'information de cotation a été présentée en classe de façon structurée, une organisation qui se traduit en une méthode systématique pour réfléchir à la cotation et en décider. Cette méthode systématique a aussi été utilisée « systématiquement » pour tous les exemples de cotation vus en classe, un effet de répétition qui semble avoir permis aux étudiants de bien l'assimiler.

2.2 Les qualités d'un bon manuel

Si l'enseignement oral peut aider à pallier aux limitations dans une source écrite, il apparait certain que cet effet palliatif ne puisse être que de brève durée, c'est-à-dire tant que l'information entendue oralement est toujours fraiche en mémoire. Avec le passage du temps, l'oral s'efface alors que l'écrit reste! Et la nécessité pour un manuel écrit de qualité reste donc entière.

Tel que déjà mentionné, le principal manuel de référence pour la cotation au SI est le *Workbook*, utilisé autant comme manuel d'apprentissage pour les étudiants débutants que comme manuel de consultation pour les cliniciens expérimentés. Or, tel que soulevé dans les travaux de cette thèse, la qualité de l'information de cotation présentée dans le *Workbook* n'apparait pas optimale pour l'exactitude de la cotation. Certaines des faiblesses du *Workbook* relevées dans la deuxième étude de cette thèse méritent d'être rappelées ici.

Premièrement, l'information de cotation dans le *Workbook* est très limitée. Par exemple, le déterminant FD n'est adressé qu'en 15 lignes, et le déterminant Cn n'est que mentionné dans un tableau introductif sans jamais être discuté plus avant dans le texte.

Deuxièmement, l'information qui y est présentée manque souvent de clarté. Les segments de texte sont parfois ambigus, laissant le lecteur avec des questions sans réponse et des difficultés à appliquer la cotation. Par exemple, la section sur la cotation de la couleur discute des cas

d'« injection de forme » en référant à la fois au niveau de forme (Déterminants) et au niveau d'exigence formelle (QD - Qualité développementale) sans distinguer clairement les deux termes, rendant ce segment du texte très confus.

Troisièmement, dans l'ensemble, le texte manque de structure. En effet, l'information y est surtout présentée sous forme de texte continu où s'entremêlent divers sujets adressés les uns après les autres sans sous-titres ou délimitations claires. Ces manques nuisent à l'organisation du texte et rendent difficile la recherche d'information dans le texte. Mais aussi, et surtout, l'organisation de l'information ne se traduit pas pour le lecteur en une approche systématique à cotation du Rorschach-SI.

Quatrièmement, le *Workbook* offre 300 exercices de cotation, ordonnés en degrés de difficulté. Cependant, la clé de correction pour ces exercices ne fait que citer la cotation exacte, sans aucune explication. Et ce manque d'élaboration limite sérieusement l'utilité de ces exercices.

Cinquièmement, une observation qui est particulièrement dérangeante est que la clé de correction pour certains des exercices semble parfois contredire directement l'information de cotation présentée dans le texte.

Ces limitations du *Workbook* ne peuvent que nuire à l'exactitude de la cotation, et l'amélioration de la qualité de l'information de cotation disponible pour le Rorschach-SI apparait nécessaire.

Une contribution plus générale de la deuxième étude de cette thèse est de montrer qu'il est possible de développer un manuel de meilleure qualité, qui peut aider à améliorer l'exactitude de la cotation et être préféré par les utilisateurs. La principale contribution des travaux de cette thèse reste de présenter une analyse des forces et/ou des faiblesses des divers manuels qui

existent pour la cotation du Rorschach, et plus spécifiquement du *Workbook* et du nouveau manuel. En guise de conclusion, il apparait de mise de rappeler les principales forces du nouveau manuel, en espérant ainsi inspirer le développement de manuels de référence de qualité pour la cotation du Rorschach-SI :

- Structure:
    - Structure tripartite de chaque chapitre (verbalisation, cotation simple, cotation complexe)
    - Guide systématique de décisions de cotation
- Contenu:
    - Plus d'information, plus claire
    - Multiple exemples et contre-exemples
- Organisation:
    - Couleurs et polices dans le texte
    - Onglets et encadrés colorés
    - Titres et sous-titres de sections
- Exercices de pratique:
    - Clé de correction détaillée

3. Conclusions et recommandations

Aux termes de ces travaux, certaines conclusions et recommandations d'ordre général s'imposent.

Tout d'abord, malgré l'importance capitale de l'exactitude de la cotation dans l'utilisation du Rorschach-SI, très peu d'études ont à ce jour traité de la question. Ces études offrent parfois des résultats contradictoires qui ne permettent par de statuer sur un niveau suffisant d'exactitude chez les utilisateurs du Rorschach-SI. La fidélité inter-juges si souvent rapportée dans les études sur le Rorschach-SI n'est pas équivalente à l'exactitude de la cotation. Il apparait donc impératif de multiplier les études incluant des mesures d'exactitude de la cotation afin de pouvoir statuer sur le niveau d'exactitude des utilisateurs du Rorschach-SI, en particulier chez les cliniciens expérimentés qui utilisent le Rorschach en clinique et en recherche.

Ensuite, les pratiques méthodologiques et statistiques pour l'exactitude de la cotation sont actuellement hétérogènes, ce qui rend parfois difficile la comparaison entre les études disponibles, voire peut même expliquer (en partie du moins) les différences dans les résultats obtenus. Une révision et une uniformisation de ces pratiques apparait nécessaire.

Par ailleurs, le manuel actuellement utilisé comme principale source de référence écrite pour la cotation au Rorschach-SI, le Workbook, présente des faiblesses et limitations importantes, et la qualité de l'information disponible pour le Rorschach-SI se doit d'être améliorée afin de favoriser l'exactitude de la cotation chez les utilisateurs du Rorschach-SI. Les pistes de réflexion proposées plus haut concernant l'enseignement de la cotation du Rorschach-SI pourraient contribuer à optimiser les pratiques pédagogiques dans le domaine. La méthode utilisée dans cette thèse pour développer le nouveau manuel sur la cotation des déterminants pourrait être appliquée aux autres segments de cotation du Rorschach-SI (Localisation, DQ, FQ, Contenus, etc.) pour poursuivre le développement du nouveau manuel entamé ici. Et l'ensemble des réflexions proposées dans cette thèse concernant les « faiblesses » identifiées

dans le *Workbook* ou les « forces » identifiées dans le nouveau manuel pourrait servir de base pour une révision future des manuels de référence existants pour le Rorschach.

À ce sujet, il apparait impossible de conclure en passant sous silence la publication très récente par *Rorschach Training Programs* d'une toute nouvelle version du *Workbook*. Au moment de l'écriture des articles de cette thèse, cette nouvelle publication n'était pas connue de l'auteure. Il est permis d'espérer que ce nouveau *Workbook* corrige déjà certaines limitations de la version antérieure et présente déjà certaines des forces souhaitables décrites dans la présente thèse… en attendant de pouvoir le démontrer!

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Annexe 1 – Formulaire de consentement

PROJET RORSCHACH

Formulaire de consentement

Date :

Nom :

Projet de recherche: L'exactitude de la cotation au Système Intégré pour le Rorschach

- Chercheure : Julie Doyon, candidate au Ph.D, département de psychologie de l'Université de Montréal
- Directeur : Jean Gagnon, docteur en psychologie, professeur, département de psychologie de l'Université de Montréal

A. RENSEIGNEMENTS AUX PARTICIPANTS

1. Objectifs de la recherche

Ce projet de recherche vise à comparer l'efficacité de deux méthodes (horizontale et verticale) de formation à la cotation du Rorschach-SI, en mesurant les taux d'exactitude de cotation obtenus par deux groupes de participants suivant une formation basée sur l'une ou l'autre de ces deux méthodes.

2. Participations à la recherche

Dans ce projet, il vous sera demandé de (1) suivre une formation d'environ 20 heures sur la cotation au Rorschach-SI et (2) procéder à la cotation d'un échantillon d'environ 150 réponses.

3. Critères d'inclusion ou d'exclusion

Pour participer à ce projet de recherche, vous devez (critères d'inclusion) :

- Être un étudiant de 1er cycle à l'université
- Avoir une bonne maitrise de l'anglais écrit : l'enseignement durant la formation est en français, mais les manuels de référence et les échantillons de réponses à coter sont en anglais

Pour participer à ce projet de recherche, vous ne devez pas (critères d'exclusion) :

- Avoir déjà suivi une formation basée sur les ouvrages intitulés :
    - *The Rorschach : A Comprehensive System* (Exner, 2003, 2005)
    - *A primer for Rorschach Interpretation* (Exner, 2000)
    - *Training Manual for Rorschach Interrater Reliability* (Hilsenroth, 2007)
    - *Rorschach Coding Solutions* (Viglione, 2002)

4. Confidentialité, diffusion et anonymat des informations

Un numéro sera assigné à chaque participant, et remplacera son nom dans tous les documents liés à la recherche. Seul un assistant de recherche connaitra la correspondance entre les numéros et les participants.

Les séances de formation seront enregistrées en format audio ou vidéo. Ces enregistrements ne serviront qu'à retranscrire verbatim les raisonnements de cotation énoncés par les participants. Les enregistrements ne seront en aucun cas diffusés.

Aucune information permettant d'identifier un participant d'une manière ou d'une autre ne sera divulguée à des personnes autres que celles liées au présent de recherche.

Toutes les données sont conservées sur des clés USB, dans un local fermé à clé. Les données seront détruites 7 ans après la fin du projet; seules les données anonymisées ne permettant pas de vous identifier pourront être conservées après la fin du projet. Aucune information permettant de vous identifier d'une façon ou d'une autre ne sera publiée.

5. Avantages et inconvénients

La participation à cette recherche ne comporte pas de risques ni avantages particuliers.

6. Droit de retrait

Vous êtes libre de vous retirer en tout temps de cette recherche, pas simple avis verbal, et ce sans préjudice et sans devoir justifier votre décision. Si vous souhaitez alors que les données recueillies en lien avec votre participation soit détruite, il sera possible de retirer ces données de la recherche.

Annexe 2 – Questionnaire de Renseignements Généraux (QRG)

PROJET RORSCHACH

Questionnaire de renseignements généraux

Date : _____

ID : _____

Identification et données socio-économiques

Nom : _____

Code permanent : _____ Matricule : _____

Âge : _____ Sexe : ☐ Féminin ☐ Masculin

Pays de naissance : ☐ Canada ☐ Autre : _____ →→→ Au Canada depuis ___ années

Statut marital : ☐ Célibataire ☐ Marié(e) ☐ Divorcé(e) ☐ Union libre

Enfants : ☐ Non ☐ Oui →→→ Nombre : _____

Salaire annuel brut : ☐ 0 -10 000 $ ☐ 11 -20 000 $ ☐ 21 -30 000 $ ☐ 31 -40 000 $ ☐ 41 000 $ et +

Langue maternelle : ☐ Français ☐ Anglais ☐ Autre →→→ _____

	Très faible	Faible	Moyen	Bon	Excellent
Niveau de maîtrise du français oral :	☐	☐	☐	☐	☐
Niveau de maîtrise du français écrit :	☐	☐	☐	☐	☐
Niveau de maîtrise de l'anglais oral :	☐	☐	☐	☐	☐
Niveau de maîtrise de l'anglais écrit :	☐	☐	☐	☐	☐

Diplôme le plus élevé obtenu : ☐ DEC ☐ Certificat ou majeure ☐ Bacc ☐ Maîtrise ☐ Doctorat

Nombre d'années d'études universitaires complétées : _____

Programme actuel d'études : ☐ bacc en psychologie ☐ autre programme en psychologie : _____

☐ autre bacc : _____ ☐ autre programme : _____

Statut d'étude : ☐ temps plein ☐ temps partiel

Nombre de crédits universitaires complétés dans le programme actuel : ____ Moyenne cumulative générale : ____ /4,3

Avez-vous déjà eu une consultation psychologique ou neurologique ? ☐ oui ☐ non ☐ ne sait pas

Avez-vous déjà reçu un diagnostic psychologique ou neurologique ? ☐ oui ☐ non ☐ ne sait pas

Expériences préalables et connaissance du Rorschach

Vous êtes-vous déjà fait administrer le Rorschach ? ☐ oui ☐ non ☐ ne sait pas

Avez-vous déjà entendu parler du Rorschach ? ☐ oui ☐ non

Si oui, à l'intérieur de quels cours ?

☐ PSY1105 – Personnalité 1 ☐ PSY2115 – Psychopathologie

☐ PSY3257 – Personnalité 2 ☐ PSY2005 – Psychométrie

☐ autres : _____

_____

PROJET RORSCHACH **Date :** _____

Questionnaire de renseignements généraux **ID :** _____

Expériences préalables et connaissance du Rorschach

Avez-vous suivi d'autres formations sur le Rorschach, d'autres tests projectifs ou avez-vous des compétences connexes (connaissances avancées de psychométrie, expériences cliniques, évaluation, etc) ? ☐ oui ☐ non

Si oui, SVP, décrire : _____

_____

Motivation à la formation

Types de motivation à suivre cette formation :

- ☐ Curiosité personnelle
- ☐ Intérêt pour la psychanalyse
- ☐ CV pour études supérieures
- ☐ Projet professionnel clinique
- ☐ Projet professionnel recherche
- ☐ Formation gratuite
- ☐ Autres : _____

Niveau global de motivation à suivre cette formation :

Aucunement motivé			Modérément motivé			Extrêmement motivé
1	2	3	4	5	6	7

Évaluation des expériences de Flow (adapté du Flow Questionnaire de Csikszentmihalyi)

Please read the following quotes:

"My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing. My body feels good. I don't seem to hear anything. The world seems to be cut off from me. I am less aware of myself and my problems."

"My concentration is like breathing I never think of it. When I start, I really do shut out the world. I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring or the house burn down or something like that. When I start I really do shut out the world. Once I stop I can let it back in again. I am so involved in what I am doing. I don't see myself as separate from what I am doing."

Have you ever felt similar experiences ? ☐ yes ☐ no

If yes, what activities were you engaged in when you had such experiences ? _____

_____

Please write here the name of the activity—among those you quoted, if any—which best represents the experience described in the quotations, that is, the activity where you feel this experience with the highest intensity. _____

Annexe 3 – Questionnaire « Évaluation du manuel »

PROJET RORSCHACH **Date :**

Évaluation du Manuel **Numéro de participant :**

Évaluez le **MANUEL** que vous avez utilisé dans cette formation Rorschach ainsi que les **CORRIGÉS** qui vous ont été fournis sur le site Studium; À propos des 15 énoncés suivants, encerclez votre choix parmi les scores allant de 1 (totalement en désaccord) à 4 (totalement d'accord).

	Totalement en désaccord (1)	Plutôt en désaccord (2)	Plutôt d'accord (3)	Totalement d'accord (4)
1. Le manuel fournit suffisament d'informations pour la cotation.	1	2	3	4
2. Le manuel contient les informations importantes pour la cotation.	1	2	3	4
3. L'information est clairement présentée dans la manuel.	1	2	3	4
4. Le texte du manuel contient suffisament d'exemples pour illustrer la cotation.	1	2	3	4
5. Les exemples sont faciles à repérer.	1	2	3	4
6. Le texte est bien organisé.	1	2	3	4
7. Le texte met bien en évidence les points importants.	1	2	3	4
8. Il est facile de retrouver une information dans le manuel.	1	2	3	4
9. Le texte se lit facilement.	1	2	3	4
10. Le texte suit une structure logique facile à suivre.	1	2	3	4
11. Le texte arrive à bien rendre des notions complexes.	1	2	3	4
12. Le.niveau de langage utilisé dans la manuel est adéquat.	1	2	3	4
13. Le manuel est visuellement bien structuré.	1	2	3	4
14. Le manuel est esthétiquement plaisant.	1	2	3	4
15. Le manuel m'a été utile pour appliquer la cotation dans les exercices.	1	2	3	4
16. Il est plaisant d'apprendre la cotation avec ce manuel.	1	2	3	4
17. Je trouve que c'est un excellent manuel de cotation.	1	2	3	4
18. Les corrigés des exercices de cotation sont très informatifs.	1	2	3	4
19. Les corrigés permettent de développer une bonne méthode de cotation.	1	2	3	4
20. Les corrigés permettent de bien comprendre les erreurs.	1	2	3	4

Commentaires additionnels (utilisez le verso au besoin):

Annexe 4 – Questionnaire « Évaluation de l'enseignement »

PROJET RORSCHACH **Date :**

Évaluation de l'enseignement **Numéro de participant :**

Évaluez l'**enseignement** reçu dans cette formation Rorschach selon les 15 énoncés suivants, en encerclant votre choix parmi les scores allant de 1 (totalement en désaccord) à 4 (totalement d'accord).

	Totalement en désaccord (1)	Plutôt en désaccord (2)	Plutôt d'accord (3)	Totalement d'accord (4)
1. Le professeur est enthousiaste à propos de la matière enseignée	1	2	3	4
2. Le professeur motive les étudiants à propos de la matière enseignée	1	2	3	4
3. Le professeur matrise bien la matière qu'il enseigne.	1	2	3	4
4. Le professeur semble motivé à enseigner et donne envie d'en connaitre advantage sur la matière.	1	2	3	4
5. Le professeur transmet la matière de façon claire et comprehensible pour les étudiants.	1	2	3	4
6. Le professeur utilise des exemples qui aident à la comprehension de la matière	1	2	3	4
7. Le professeur aide les étudiants à faire des liens entre les diverses notions vues au cours.	1	2	3	4
8. Le professeur est à l'écoute des questions et commentaires des étudiants	1	2	3	4
9. Les devoirs et tests cherchent à vérifier la compréhension et la connaissance de la matière	1	2	3	4
10. Les devoirs et tests portent sur des aspects importants de la matière.	1	2	3	4
11. La retroaction en classe sur les devoirs aide à mieux comprendre la matière	1	2	3	4
12. De façon générale, j'ai apprécié ce professeur	1	2	3	4
13. Je recommenderais ce professeur à d'autres étudiants	1	2	3	4
14. De façon générale, j'ai apprécié cette formation.	1	2	3	4
15. Je recommenderais cette formation à d'autres étudiants	1	2	3	4

Commentaires additionnels :