

Université de Montréal

The 'Is' of Fiction

Elgin/Goodman Fictionalism: *fictions in art and science*

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The 'Is' of Fiction
Elgin/Goodman Fictionalism: *fictions in art and science*

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Résumé

Cet essai a pour objet le rôle de la notion de *fiction* dans les domaines de l'art et de la science. Essentiellement, je soutiens que « fiction » dans ce contexte est « a category mistake » (concept versus genre) et je crois que cet essai peut réussir à « cuire du pain philosophique » en dévoilant une dispute verbale. Je suggère donc de clore un débat philosophique dans son intégralité. Je présente un exposé du style de fictionnalisme abordé par Catherine Z. Elgin et Nelson Goodman (que ce soit dans le contexte des arts ou des sciences, nous parvenons à la compréhension grâce à des fictions sous formes de « vérités non littérales ») et j'explore le concept de la *fiction*. Je soutiens que les représentations (textes descriptifs de toutes sortes, incluant les modèles) sont constituées d'éléments fictionnels et d'éléments facettés (à l'exception de la version idéale possible ou impossible, c'est-à-dire dans l'esprit de Dieu, qui n'inclurait que les facettes.) La compréhension ne peut provenir de la fiction, mais plutôt d'éléments facettés ordonnés de manière à créer une compréhension qui conduit généralement à des prédictions, des explications et des manipulations. Je définis les facettes comme ayant des caractéristiques organisées, alors que les fictions ont des caractéristiques désorganisées. La fiction dans son intégralité est donc, par définition, l'expression du néant (of nothing), ou en matière de langues idéales (mathématiques), l'expression de contradiction. Les fictions et les facettes relèvent des représentations qui sont elles-mêmes primitives. Les textes descriptifs sont donc fictionnels par degré. Les récits qui sont très fictionnels ont une certaine valeur (souvent ludique) mais contiennent toujours au moins une facette. En fin de compte, toutes les activités représentationnelles devraient être considérées irréelles, incomplètes, bien que parfois connectées à la réalité, c'est-à-dire, prises entre une description réaliste facettée et une fiction dans son intégralité.

Mots-clés : fictions, facettes, fictionnalisme, art, science, l'irréalisme.

Abstract

This essay concerns *fiction* in art and science. I argue that the term ‘fiction’ used in this manner is a category mistake (*concept* versus *genre*) and I believe this essay may succeed in “baking philosophical bread” by recognizing a verbal dispute. I am, therefore, suggesting an entire thread of discussion be re-evaluated. I provide an exposé of Catherine Z. Elgin and Nelson Goodman’s brand of *fictionalism* (i.e. that we glean understandings in the arts and sciences from *fictions* in the form of non-literal truth) and concentrate on unpacking the concept of *fiction*. I argue that representations (narratives of all sorts including models) are made of both fictional elements and faceted elements (with the exception of the possible or impossible ideal version e.g. God’s, which, would include only facets). Understandings are not gleaned from fictions but rather from faceted elements so ordered as to create understanding and usually leading to predictions, explanations, and manipulations. I define facets as ordered features whereas fictions (the genre) are groupings of disordered features. Full fiction is, therefore, by definition the expression of nothing or with respect to ideal languages (mathematics), the expression of contradiction. Representations are primitives and both fictions and facets are parts of them. Narratives are thus fictional by degree. Narratives which are highly fictional are of value (often playful) but they still always contain at least one facet. Ultimately all representational activity should be regarded as *irreal* i.e. incomplete although sometimes connected to reality and caught between a perfectly faceted realist description and complete fiction.

Keywords : fictions, facets, fictionalism, art, science, irrealism.

Table des matières

Résumé.....	i
Abstract.....	ii
Table des matières.....	iii
Remerciements.....	vii
Introduction.....	1
A Note on Typography.....	1
Goodman/Elgin Fictionalism.....	1
Chapter 1.....	10
1. A Preliminary Argument Against Assumption 1.....	10
2. Other Fictionalists.....	15
3. Pre-philosophy.....	20
4. Diverse Topics.....	20
5. The Hinge Argument.....	22
6. Themes: Elgin.....	23
7. Mirrors, Imitation and Copying the World.....	23
8. The Problem of “Being” and Is-forms.....	26
9. The Domain of Is-puzzles.....	29
10. The Kantian Problem Versus the No Target Problem.....	31
11. Understandings.....	33
12. The Primitive Hierarchy Problem.....	34
13. Fictions, Features and Facets.....	40
14. Representation and Denotation.....	41

15. Mathematics and the Problem of Identity.	46
16. Representation As.....	54
17. When Can Reference Be Fixed?.....	56
18. Returning to Representation-as and Elgin.....	58
19. Arguments from Understanding.....	62
20. Exemplification of Features.	67
21. Fiction.....	69
Chapter 2.....	74
22. A Review.....	74
23. Fit.....	79
24. Resemblance.....	80
25. Objectivity Remade.....	81
26. Category Mistakes and Verbal Disputes:	82
27. Epistemology.....	84
28. Some Preliminary Epistemological Concerns.....	86
29. Some Negative Remarks.....	89
30. Philosophy of Science and Models in the Literature.....	89
31. Agency.....	91
32. The Dark Side.....	95
33. Models of Science Made Simple.....	96
34. Unregimented Quality of Natural Languages and the Relationship to Models.....	101
35. Regimentation:	103
36. The Reference Problem.....	105

37. The Domain of Isp and Politics	106
Conclusion	108
Bibliographie.....	109
Index.....	112

For Joséane and my late mother, Livia...

As [the mathematicians] are telling me the conditions of the theorem, I construct something that fits all the conditions. You know, you have a set.... one ball... disjoint... two balls. Then the balls turn colours, grows hairs... Finally, they state the theorem... which is some dumb thing about the ball, which isn't true for my hairy green ball thing, so I say "False"!
Richard P. Feynman

Nous n'héritons pas de la terre de nos ancêtres, nous l'empruntons à nos enfants. (*proverbe africain cité dans Terre des Hommes de Saint-Exupéry.*)

Art is not a copy of the real world. One of the damn things is enough. *credited to Virginia Woolf by a number of sources including Nelson Goodman.*

A portrait is a painting with just a tiny something wrong with the mouth. *John Singer Sargent; American portrait artist.*

One can [say] that the atomic system behaves 'in a certain relation', 'As If ...' and 'in a certain relation, 'As If ...', but that is, so to speak, only a legalistic contrivance which cannot be turned into clear thinking. *Letter from E. Schrodinger to N. Bohr, October 23, 1926*

Rien n'exige plus de vérité que la fiction. *Jean Cocteau*

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The existence of this essay is due to the many and variously distinct contributions of friends and colleagues. First, I wish to express my gratitude to Jean-Pierre Marquis for his enormous encouragement, insight and great humour. He helped me to transform a collection of disorganised elements into a clear problematic. His is a major talent. To Michel Seymour, who has inspired many reflections regarding identity; both personal and collective. To Jim McGilvray, (from 1980 to the present) for having noticed my scattered tendencies and for consistently offering troublesome counter-examples; I am certain he would have many more should he ever read this paper. To Eric T. Olson, Stephen Hetherington, Paul Pietroski and Catherine Z. Elgin for responding to my confused emails. To Ian Gold, for his encouragement and suggestions over coffee. To Noam Chomsky, I say thank you, not only for the extraordinary external things he has done by encouraging others, but also for making me become aware and respectful of my inner voice, which I have recently begun to understand, respect and recognize. To Pierrette Delisle, for having made my university experience easy. To Sal Bienstock for teaching me how to survive public speaking and to avoid “pressing the transmit button”. And to Joséane Brunelle for moral support, playing the devil’s advocate, infectious laughter, brilliance, allowing me to “transmit” late into the night and for the deepest partnership I can imagine... and for translating my abstract.

Introduction

A Note on Typography. I will refer to a concept or a category by italicizing e.g. *fiction*. I will use single quotation marks when referring to the word itself e.g. ‘fiction’. Double quotation marks for direct quotes e.g. Vaihinger called this “expediency”. I also italicize for emphasis and underline a philosophical position when introducing it.

Goodman/Elgin Fictionalism. This essay contains an exposé of the notion of *fiction* in the works of Catherine Z. Elgin and Nelson Goodman. What is of interest herein is to ascertain the way that *fiction in the arts* is connected to *fiction in the sciences* by both philosophers. Though my study is primarily epistemological, there are many ontological implications involved, because the notion of *fiction* is generally attached to issues regarding what exists or *is*. Furthermore, as we shall see, problems normally found in philosophy of language are also unavoidable. However, the general question I am asking is the following: *What sense does it make to use the word ‘fiction’ in both domains?*

This question obviously raises another question: *what do we mean by ‘fiction’?* Following Noam Chomsky, I have misgivings about an externalist project that searches to answer the ‘we’ question by appealing to communities that are hard to limit or define, or to the science of statistical analysis. This would consist in a completely different kind of project. *We* might be fairly mixed up about what *we* mean by ‘fiction’.

Chomsky regains inter-subjectivity for his internalist perspective by positing that our internal concepts are universal. While this may seem surprising at first, it makes sense. How our mental machinery works is an object of scientific study beginning with the somewhat stunning fact that we understand each other, to a greater or lesser degree. Children are simply not taught how to understand. Understanding is a built-in capacity and the result of certain kinds of mental tasks e.g. parsing and categorizing. Therefore, I am aligning myself in this work with a Chomskyan internalist perspective on the grounds that our concepts may imply a certain form of consistency, all of which relies on the way our

minds¹ work. Understanding implies the need to make sense. This project, therefore, has an a priori aspect to it, however much of the a priori may be supported by empirical evidence found in the limitations of sentence structure and of word use.

Thus, W. V. O. Quine's refutation of the analytic/synthetic distinction may only target empiricism and behaviourism. If there is a built-in natural language module in the form of a universal grammar, the notion of the *synthetic a priori* is lurking in the wings.

There is much that I greatly appreciate about the works of Elgin and Goodman. According to Israel Scheffler, Goodman's *Languages of Art* "brought art and science into communication, providing an ingenious common framework for analyses of musical scores, literary scripts, scientific discourses, pictorial depictions, architecture and dance".²

For any student with a background more artistic than scientific, the university experience can be unsettling. Often, it would seem, science is everything. As a result, many scholars prefer to associate themselves with the sciences than with the arts on the grounds that if science is everything, then why not make everything science? The opposite tendency, by the way, is just as common. Why not make everything art? Even mould in a Petri dish can be exhibited.³

Although I admit that the following troublesome term has been employed in many other ways, I will call the tendency regarding science noted above — and in keeping with Hilary Putnam's usage, scientism.⁴ Nonetheless, what constitutes science, at least natural

¹ I use 'mind' in the same way as Chomsky, not implying dualism, but as another word for *functioning brain*. Chomsky frequently uses the expression "mind-brain" in order to avoid confusion.

² Scheffler, I. (2001) "My Quarrels with Nelson Goodman" p. 667.

³ I am far more sympathetic to anything being art than to anything being science.

⁴ Putnam, H. (1995) *Renewing Philosophy*. p. x. He defines *scientism* as "the idea that science, and only science, describes the world as it is in itself, independent of perspective".

science may be more precise than many may believe. To be fair we could call the opposite tendency regarding art, artism.

Elgin steers a thoughtful course through many extremes. Even the titles of her works reflect this desire—examples include *Between the Absolute and the Arbitrary* and *Considered Judgement*. Goodman’s *Ways of World Making* has been viewed by many as moving to an extreme. A fascinating debate occurred after its publication between Scheffler and Goodman regarding “star-making”. Essentially Goodman claimed that we make the stars and that we make the stars long ago and furthermore that we make space and time. Without detailing this view immediately I will use Goodman’s term irrealism to denote this viewpoint and so distinguish it from Elgin/Goodman fictionalism. Nonetheless, I believe Elgin agrees with Goodman’s star-making irrealism. As wild as this *ism* seems to be, I hope to convince my reader of its coherence.

Sellars famously wrote, “[t]he aim of philosophy, abstractly formulated, is to understand how things in the broadest possible sense of the term hang together in the broadest possible sense of the term”.⁵ Irrealism “hangs together” with all versions right and wrong as well as with those versions lost somewhere in between. Irrealism is pluralist and soft-relativist i.e. not the view that on being confronted with God herself, the relativist states, “Well, you’re entitled to your opinion!” Irrealism is not committed to anti-realism, realism, idealism or physicalism. Hopefully, by the end of this paper, I will have explained what irrealism is.

What often fuels scientism is reductionism, in one of its many forms, based on another extreme: the epistemological preconception that truth reigns supreme. After all, what is, it is believed, must be true, and what is, is discovered by doing science.⁶

⁵ Scharp, K. and Brandom, R. B. (eds.) (2007) *In the Space of Reasons: Selected Essays of Wilfrid Sellars*. p. 369.

⁶ *Reductionism* like *fictionalism* has a vast literature which cannot be detailed herein.

Elgin's logicist approach to reductionism (i.e. theoretical reductionism) states that any theory *A* can be reduced to theory *B* if theory *A* is fully expressed by theory *B* and in fewer steps.⁷ If what we are after is the truth then all that should count is stating the truth in the fewest steps possible. Elgin tells us:

Reduction of scientific theories is often treated as a linguistic issue [...] the objects of the reduced theory are thus shown to be *nothing but* objects [...] recognized by the reducing theory.⁸

[I]n effect, reduction is the last step before the end of science. When all the truths are in and the relations between them are properly mapped, we can shut off the lights in the lab, close the door, and go home. But conceivably science is not like that. Perhaps there is no end [...] To conclude that the *As* are nothing but *Bs*, and thus that henceforth the *As* may be treated as nothing but *Bs*, may be rash if our grounds are known to be [...] vulnerable. [...] Moreover, the reductionist assumes that all genuine (non-logical) truths are discoverable by science. But if, as Goodman and others believe, the arts, the humanities and philosophy afford understandings [of] reality, which are expressible in propositions, and those understandings are not captured in scientific claims, then there are genuine truths that elude reduction. And if the arts convey accurate insights in ways that are non-propositional (as, for example, pictures and music seem to), then those insights too are not candidates for reduction [...].⁹

⁷ Elgin's view of *reductionism* is characteristically Nagelian. This is a form of logical reductionism. See: Nagel, E. (1949) "The Meaning of Reduction in the Natural Sciences", p. 99-138. I thank Jean-Pierre Marquis for reminding me that there are other forms: semantic, epistemological and ontological. Ontological reductionism (i.e. methodological reductionism) is parsimonious. For example, why assume there are minds versus brains? One reason is so that I can say "I've changed my mind" without saying "I've changed my brain". This could create an intuition favouring semantical reductionism. Presumably there are changes in my brain which I can refer to by (and which mean) changes in my mind. But my brain is a mess of quantum events. We can see puzzles abound. The problems, I will argue, stem from the polysemous nature of the word 'is'.

⁸ Elgin, C. Z. (1997) *Between the Absolute and the Arbitrary*, p.42.

⁹ Elgin, C. Z. (2009) "Construction and Cognition", p. 138-139.

There are many threads that create the rich fabric of what I will call Elgin/Goodman Fictionalism.¹⁰ Generally, one of their significant views noted in the above quotation, can be stated as follows:

Proposition 1— *fictions in art and fictions in science are deemed highly significant to our ability to glean understandings.*

At the heart of this debate is the notion that *fictions* cannot be reduced. There is simply no room for them in the true-story-of-the-real. There are two problems that immediately come to mind:

- 1) Many philosophers believe if truth is what we are after, then we must sacrifice all fiction.
- 2) Can we simply assume that fictions in the sciences (if there are such things) are like fictions in the arts?

In reference to 2), some philosophers think there is a clear connection. Believing that there is a connection is often associated with the term “fictionalism”. In the *Stanford Online Encyclopaedia* we read:

Fictionalism about a region of discourse can provisionally be characterized as the view that claims made within that discourse are not best seen as aiming at literal truth but are better regarded as a sort of ‘fiction’. As we will see, this first characterization of fictionalism is in several ways rough. But it is a useful point of departure.¹¹

Elgin and Goodman offer us one version of fictionalism and the *Stanford* entry is a fair, albeit rough and partial, characterisation of it.

¹⁰ I use this expression rather than “irrealism” in order to limit inquiry, though I will employ it now and then. Also I do place greater emphasis on Elgin’s work in this essay, though I will refer to and quote Goodman frequently.

¹¹ Eklund, M. (2011) “Fictionalism”, *Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/entries/fictionalism/> consulted on 11/5/2011

We will call this:

Proposition 2—*Arts and sciences employ fictions in the form of non-literal truths from which are gleaned understandings.*

But, one could justifiably wonder whether ‘fiction’ is an apt word in relation to the sciences. Furthermore, we have not yet argued sufficiently for the view that the sciences employ fictions at all. And again, even if we do show examples of this, must we use the same word ‘fiction’ in both domains?

Why accept that science employs fiction? Therefore:

Assumption 1—*Science never employs fictions.*

I also propose we immediately distinguish fictions in the arts by calling them artistic-fictions from fictions in the sciences (although they may not exist) by calling these would-be entities scientific-fictions.¹² This is somewhat arbitrary I admit, but I am doing it to set up the idea that they may be two very distinct things. So we assume there are two as our starting point and attempt to find good arguments showing otherwise.

Therefore:

Assumption 2—*Artistic fictions differ from scientific fictions (if they exist at all).*

According to Mauricio Suárez, this distinction, along with the notion that fictions are used in the sciences on a regular basis, can be traced back to the neo-Kantian pragmatist, Hans Vaihinger (1852-1933) :

However the fictions employed in scientific reasoning are not of the same kind as those that appear in other areas of human endeavor. Vaihinger distinguished scientific fictions from other kinds of fictions (such as poetic, mythical, or religious

¹²Mauricio Suárez uses the same terminology in his 2009 article. ‘Science fictions’ would generate confusion.

fictions), and he understood the difference to be one of function. Virtuous fictions play a role in a particular kind of practical rationality in scientific theorizing, a kind of “means–end” rationality at the theoretical level. In Vaihinger’s terminology, they are *expedient*.¹³

We may note that Vaihinger considered scientific fictions both “virtuous” and “expedient”. Elgin, we shall see, calls them “felicitous falsehoods”.¹⁴ Both Elgin and Vaihinger accept that fictions exist in the sciences. However, as we shall see, Elgin, unlike Vaihinger, plays down the distinction between fictions in the arts and fictions in the sciences. There are three very powerful reasons for doing this, all of which, I believe, are fairly consistent with Elgin’s views:

- 1) Fictions are simply wrong (false) versions whether they are scientific, artistic or other.
- 2) There is nothing in principle that suggests artistic-fictions and other-fictions cannot be “expedient” and “virtuous”.
- 3) There is nothing in principle that suggests scientific-fictions are necessarily “expedient” and “virtuous”.

Suárez credits Arthur Fine with tracing the line of influence from Vaihinger’s “Philosophy of “As If” (als ob) to the Copenhagen Interpretation as well as to the works of Scheffler (1963); the doctoral advisee of Goodman’s.¹⁵

¹³ Suárez, M. (2009) “Scientific Fictions as Rules of Inference”, p. 158.

¹⁴ Elgin, C. Z. (2004) “True Enough”, p. 122.

¹⁵ See Fine, A. (1993) “Fictionalism” p.4: “Vaihinger is usually regarded as a neo-Kantian, although his reading of Kant was very idiosyncratic. For example, where Kant generally considers scientific principles as providing the possibility of objective knowledge (i.e., as constitutive) for Vaihinger in large measure (although not totally) scientific principles are fictions, functioning as regulative ideals. Overall, Vaihinger’s work, in fact, shows a strong British influence—especially due to Berkeley on the philosophy of mathematics and Hume on impressions and the imagination. [I]n many respects, Vaihinger is closer to American pragmatism than to the transcendental idealism of Kant. Indeed, Ralph B. Perry, and other keepers of the pragmatic tradition, identify Vaihinger, Williams James, and Poincaré as leading pragmatist thinkers of their era”.

Finally, I will propose one weak thesis and one strong thesis:

Weak Thesis Statement—*both the arts and sciences can contribute to understanding. They are invaluable forms which may always function in radically different ways on radically different domains.*

Strong Thesis Statement—*the arts contribute to the understanding of a domain that is fundamentally inaccessible to the sciences.*

In this paper I support the strong thesis as well as irrealism while denying Elgin/Goodman fictionalism. I therefore, accept assumption 1 i.e. *that we do not glean understanding in science from fictions*. I will also argue that we do not glean understandings in the arts or other domains from fictions.

The debate ultimately rests on a category mistake: ‘fiction’ is understood in its conceptual form as a part of descriptive noun (an adjective modifying a noun) e.g. a fictional narrative. With the title of this paper: *The ‘Is’ of Fiction*, I imply that *fictions* exist in the way that other descriptions exist e.g. ‘tall’ or ‘sarmy’. On these grounds we do not learn from *fictions* anymore than we learn from *talls*. Nonetheless, we do regularly use the word ‘fiction’ to denote a ‘genre’ of film or novel.

Nevertheless, I will use ‘fiction’ as though it were a noun, as others in the literature do, and work to show this is a misguided reference to a *genre* that ought to be avoided in this context.

This thesis tends to be more argumentative and essay-like than is normally expected. I hope that I have not misrepresented the views of the philosophers I study; however, it appeared to me in the course of the work presented here that the problem could be framed in a particular way and neatly resolved. Consequently, while I begin with Elgin/Goodman fictionalism, I introduce work by other philosophers, e.g. Mario Bunge, Ludwig

Wittgenstein and Noam Chomsky. Each of these philosophers raised key (in my mind) concerns that tie to the problem in important ways, which I would prefer not be neglected as it seems these concerns provide some evidence for my contention that this is a verbal dispute. Finally, Chomsky was Goodman's student, and we should note that they worked in very different directions. The heart of my project is, I believe, in recognition of the nature of that significant disagreement, which is placed in the larger context of how the philosophy of the sciences (logical empiricism) collapsed and was to be replaced by the analytic tradition.

Finally, I would like to point out that the more secondary question; the idea that art can and often does contribute to understanding is supported by Elgin, Goodman, Chomsky and Bunge. The latter two philosopher's views on fictionalism, however, are more difficult to unpack. Both Chomsky and Bunge are scientific realists in differing ways and this is why I think they can contribute to resolving the debate.

Chapter 1

1. A Preliminary Argument Against Assumption 1. Assumption 1 stated that *science never employs fictions*. This section, therefore, provides the first argument supporting the view that science may, very well, employ fictions.

If we reconsider the notion of reduction for a moment, I would like to make the following point. Both Goodman and W. V. O. Quine raised many striking and influential sceptical concerns in the 20th century. I will not detail these concerns here. Briefly, however, Quine's indeterminacy of translation and Goodman's new riddle of induction are similar. The former is initially aimed at linguistic concerns (inviting scientific implications) and the latter is aimed at general scientific ones. Essentially, what happens if theory *A* and theory *B* manage to properly express a phenomenon in two completely divergent languages?

Elgin explains Goodman's riddle as follows: "This is the new riddle of induction [...] Why [...] should we accept 'All emeralds are green' as lawlike [and not] 'All emeralds are grue' [when] both are equally compatible with the evidence".¹⁶ 'Grue emeralds' plays the role of stating a condition, which will possibly occur at time *t* and which cannot be ruled out. The probability of emeralds being grue may ultimately equal or exceed the probability that they will be green. The riddle would not be a problem if science were complete. It is a problem now however. We cannot know if we have over-reduced for the simple reason that a specific future event has not yet occurred and we cannot add provisions to the theory to cover for that event without expanding the theory infinitely. Domains may always remain distinct; worlds apart, may remain so forever. Truths in theory *A* may never coincide with truths in theory *B*. Goodman's riddle is a modified version of Hume's problem of induction.

¹⁶ Elgin, C. Z. (1997) *Between the Absolute and the Arbitrary*, p.43.

Far more troublesome is that although we might wish to believe strongly in some law, we simply cannot tell if it is a work of fiction until time t . Even apparent *facts* could turn out to be *fictions*. This has potentially fatal consequences for our assumption 1 i.e. that *science never employs fictions*. What we think are facts of science may indeed be fictions. If so, we may always be using fictions or at least we have no way of knowing with certainty when we are not.

Ceteris paribus conditions cannot solve Goodman's riddle. They are simply conditions of agreement. If we add conditions like 'until today', we are on the slippery slope of restricting the domain to only emeralds I presently hold in my hand. Where can we draw the line on *generalization* such that it still remains a generalization?

There are counterarguments however.

Scientific realists like Mario Bunge, claim this is only fallibilism i.e. "the mark of critical realism [which is] absent from naïve realism".¹⁷ In regard to Goodman's riddle he states: "Beware appearances and artificial examples concocted just to support or undermine philosophical speculations".¹⁸

Carl Hempel and Paul Oppenheim offered the Deductive nomological model of scientific explanation (d-n model) in which they posited that covering laws allow scientists to deduce from explanans (statements s of the theory $s_1...s_n$) to explanandum (phenomena $p_1... p_n$) providing that one of the statements is more or less "law-like".¹⁹ Aside from this requiring a definition of *law* that is workable, Wesley Salmon²⁰ provided significant

¹⁷ Bunge, M. (2006) *Chasing Realities, Strife over Realism*, p. 255.

¹⁸ *ibid.*, p. 76.

¹⁹ Hempel, C. and Oppenheim P. (1948) "Studies in the Logic of Explanation", reprinted in Hempel, C. (1965) p. 247-248.

²⁰ Salmon, W. (1971) "Statistical Explanation", p. 29–87.

counterexamples. He argued that we could deduce 1) “explanatory irrelevancies” and 2) “explanatory asymmetries” from laws. The deduction from a law ultimately requires a perfectly stable law, but there is still no guarantee of an explanation. The riddle would seem to make all laws suspect; not in the mind-independent world, but in the world that counts to us, the cognitive world. The confident geologist may remain confident. We philosophers do the doubting by proxy.

If there is a major difference between Elgin/Goodman-fictionalism and Bunge’s hylorealism (emergentist materialism), perhaps it lies in Bunge’s focus on truth as opposed to understanding.²¹ Understanding only a little may be preferable to believing much to be true. I return to my introduction; perhaps what is, is something other than what is true? On these grounds, it would seem, Goodman and Elgin offer us a more minimalist and therefore, fallibilist account. We might ask, in what sense is the beauty of a water lily true? A sunset? Even if ideal science tells us what is, art may tell us what it feels like. It’s not clear that one can be reduced to the other for it is unclear which part, if any, is truly irrelevant. Again, these worlds might remain forever apart. Moreover, art may do more than tell us what things feel like. Thomas Nagel, in an attempt to preserve an agnostic Physicalism, did not try to deny the fundamental irreducibility of a bat’s experience.²² Bunge would not either. But, emergentist idealism rather than emergentist realism is, arguably, just as coherent.

²¹ Interestingly, ‘understanding’ does not appear in the index of Bunge’s *Chasing Realities, Strife over Realism*. This is only a vague thought that would require other research. In all fairness, Bunge is prolific and likely deals with ‘understanding’ elsewhere. Bunge offered a fascinating argument against Idealism in a conference on Quantum Mechanics organized by Louis Vervoort. If I understand it, it could be summarized by saying the real world cannot be fully known, therefore it cannot be made of mind.

²² Nagel, T. (1974) “What Is It Like to Be a Bat?” p. 435-50.

Bunge's main argument is not unlike the d-n model, i.e. we know what emeralds can or cannot do. They cannot simply change colour at time t for example. This appears to miss the point. The problem is epistemological and aims at theories i.e. how can we know the emeralds are not grue all along implying that we have only examined the green ones and have never examined the blue. There is as much evidence for "all emeralds are green" as for "all emeralds are green until some future date". The riddle aims at the fundamental fictionalism inherent in all theory making. Is every theory fictional? We will see that Bunge draws a clear line between fictions and reality allowing for the reality of concepts; in particular mathematical, moral and scientific concepts. This seems to support assumption 1 (*science never employs fictions*) despite Bunge's claim that mathematical entities are themselves fictions.

Another counter-argument, which possibly preserves assumption 1 (*science never employs fictions*), is the following:

Perhaps induction is far less important to the sciences than philosophers often believe? In other words the belief that science is derived from empirical foundations (induction) is nothing other than the advancement of empiricist misconceptions. Science works in a different way. Deduction, abduction and induction may all play roles along with various innate capacities relating to the know-how of the kind of animals we are.

Two possibilities follow from this approach:

- 1) What we 'know' is by definition *never fictional* otherwise we simply do not know it.
- 2) Clear and distinct ideas and scientific concepts may be real e.g. possibly triangles, numbers, structures, quarks, atoms etc.

Furthermore, our discoveries show a universe that is surprisingly uniform i.e. there is no demon ready to pull the carpet out from under us; there are only good and bad scientific

procedures. I will call this the Rationalist Argument.²³ I contend that 1 without fully accepting 2. Platonists and Realists often believe both 1 and 2.

If we consider the statement: *What we 'know' is by definition never fictional otherwise we simply do not know it*, I am not suggesting that every proposition is making an ontological commitment. For example, the statement “two wrongs do not make a right” is not clearly ontological, though it may seem true.

Nonetheless, from the rationalist point of view, many of the famous critiques of the 20th century developed by Goodman, Quine and Morton White may only be attacks on empiricism. The indeterminacy of translation, the destruction of the analytic/synthetic distinction and the overall general attack on the ‘dualisms’ may have made behaviourism

²³ A few wild asides: 1) at the extremity of the rationalist argument is sometimes found the denial that this universe is the *real Universe*. There are some examples of this view e.g. Plato’s. I also attach this remark to Lewis’s many possible worlds as well as to Leibniz’s “monads in the best of all worlds” and to seemingly coherent nihilist cosmologies. Rationalists are sometimes committed to there being a heaven, either in the metaphorical Platonist sense (the place where the forms, concepts or structures reside) or in the real sense in which this universe is unfolding and folding back into itself i.e. eventually headed to perfection implying that all imperfect universe-versions are simply fictions. 2) Even parsimonious projects, like Chomsky’s, leave us wondering about where our languages suddenly came from. We live in a universe that is apparently and bizarrely capable of generating consciousness. 3) Whether or not an infinite multi-verse is the stuff of science-fiction remains to be shown; can it be shown at all? To augment the level of speculation: should this universe *not be the real universe*, then nothing here in this universe will have been proven; nor will it have been known, believed or lived. Should this universe dwindle into nothingness, who will remember our proofs, our lives and our beliefs? 4) Can unknown (i.e. mind-independent) universes exist? I mistrust the extremities of theories but noticing their tendency to lurk in the corners seems unavoidable. Simpler versions seem no less extravagant at their extremities.

and empiricism untenable,²⁴ leaving a far more nativist option open.²⁵ I will explore this a little more later.

Despite the possibility that the rationalist argument can be made to favour assumption 1, (*science never employs fictions*), there is still a great deal of support for the belief that it has been refuted. According to Suárez, examples abound:

The modeling scholarship of the last decade or so has made a strong case for a version of Vaihinger's main thesis: The use of fictions is as ubiquitous in scientific narratives and practice as in any other human endeavor, including literature and art; and scientists have demonstrated throughout history a capacity to create, develop, and use fictions for their own purposes that compares with that of any writers or artists.²⁶

At any rate, even if scientism and reductionism fail, must we necessarily adopt a fictionalist perspective? Let's allow that assumption 1, i.e. *science never employs fictions* stands for the moment and work at the problem from another direction.

2. Other Fictionalists. Bas van Fraassen, Roman Frigg, Ronald Giere, Hartry Field, Mauricio Suárez, Stephen Yablo, Mario Bunge and Nancy D. Cartwright are some examples of philosophers who also hold versions of fictionalism. It will be best, therefore, to assume there are many versions of fictionalism and so I will work at understanding Elgin/Goodman Fictionalism and consider others versions only when they prove helpful in understanding this one. A study of fictionalism in general commands a much larger work. I

²⁴ It should be noted that this history probably transformed Goodman and ultimately Elgin – both became constructivists. This is not an unlikely move. It is not far away from the move Kant made following Hume.

²⁵ Even Empiricists and Behaviourists concede that we must have certain innate capacities in the form of know-how. The questions that puzzle Noam Chomsky are very fascinating: *How is it possible that we can acquire a language?* We must be hard-wired in some very powerful way. What this includes or doesn't include is difficult ascertain.

²⁶ Suárez, M. (2009) "Scientific Fictions as Rules of Inference", p. 159.

do nonetheless believe the notion often relies on a category mistake as I have suggested above.

When we speak of things that do not exist then generally we might be tempted to denote such things using the term ‘fictions’. This is one primary troubling ontological problem that would be difficult to avoid. For example, we might wonder, as others have, whether numbers exist? Continuing with this example, mathematical fictionalists (nominalists regarding mathematical entities) like Yablo and Bunge deny that numbers exist, while mathematical Platonists believe numbers do indeed exist. If numbers do not exist then the statement “2 is an even number” is false in the way that all talk of any *fiction* is false. At the very least it is not as obviously literally true that “2 is an even number” is true in the way that “Henry the 8th was the King of England” is literally true.²⁷ This notion of *literal truth* is important to Elgin and it returns frequently. *Literal truth* for Goodman and Elgin is world dependent. One’s immediate reaction might be that the boundaries of what counts as *literal truth* are fuzzy at best. Some might retort impatiently, “Of course, $2+2=4$ is literally true!” and “How can you not be certain that there is chalk on the table?” I admit to having been harshly chastised for being uncertain about either proposition in two separate philosophy classes. I guess it is possible that the list of things requiring the “certainty stamp” got lost in the mail and thus, never reached my apartment. Possibly, I am too puzzled by everything. For the moment, we will assume that *literal truth* is easy to understand and move forward. We will return to it in the section specifically devoted to epistemological concerns.

A first intuition regarding mathematical fictionalism, might be that if truth is connected to existence, then true/false is made vacuous where mathematics is concerned. In

²⁷ See Balaguer, M. (2011) “Fictionalism in the Philosophy of Mathematics”, *Stanford Encyclopaedia of Philosophy*, <http://plato.stanford.edu/entries/fictionalism-mathematics/#EmbPro> consulted 11/5/2011

other words, can it be argued that the epistemological distinction between truth and falsehood need not necessarily be tied to ontology? Allowing that we probably need both words (true and false) to help us distinguish “2 is an even number” from “2 is an odd number” – can we just avoid the ontological problem altogether?²⁸ This is, more or less, the move made by the logical positivists. I will argue from an irrealist perspective that mathematical numbers exist in a form-of-‘is’. My difficulties recounted above regarding recognizing “chalk” on a table came from the lack of agreement between my professor and I regarding which is-form²⁹ we were selecting; not to mention my wondering whether he had painted a piece of wooden dowel and is a practicing illusionist in his spare time. My epistemologically internalist tendencies made me want to look for justification from a chemist and my Chomskyan internalist tendencies made me think I could name a pet white mouse “chalk”. So, for example, “Is chalk on the table from a quantum mechanical perspective?”³⁰ can be answered with, *I do not understand how chalk is relevant to Quantum mechanics* and neither is that white cylindrical object my pet mouse. At any rate, we will call mathematical irrealism³¹ the view that numbers exist in the way that things like numbers exist and the same can be said for things like chalk and mice. This view may already have another name. By the end of this paper I will explain how things like gods, goblins and ghosts exist.

The logical positivists undertook [this] admirable task. [O]nly two sorts of claims were considered cognitively significant: those whose truth values are entirely determined by their logical form and those whose truth values can be established by

²⁸ Another possible option is to reject the true/false bivalence and to supply another vocabulary e.g. assert versus deny. It leads to other problems.

²⁹ I will define this in detail later.

³⁰ I am not a Nihilist. Unfortunately, nihilism is not clearly incoherent and therefore belongs in the domain of the soon to be described is-puzzles.

³¹ This view may already have a name.

empirical evidence. The former belong to logic or mathematics, the latter to empirical science.³²

For the first expression “2 is an even number” we might simply use the word “true”, while for the second word, “false”. In short, we give up on ontological questions because they are nonsensical and thus preserve our much needed epistemology.

However, and conversely, separating the ontological from the epistemological is hard to do when we attempt to unpack the notion of ‘fiction’. We may want it both ways and this generates our dilemma. Elgin avoids the extremes of the positivist tradition in an effort to preserve the notion of *fiction*. To my knowledge she does not, unlike Yablo, state clearly that numbers are fictions.³³ Yablo gives wonderful examples like the following: “The number of numbers is 0”; “there are no prime numbers” and “the average mother has 2.3 children and no mother has 2.3 children”.

Completely denying the existence of numbers is somewhat extreme. One approach is to make them abstract objects. This is simply to place them in an is-form. I will discuss this in the section on is-puzzles. Briefly, an is-puzzle is comprehensibly murky.

Now, some is-puzzles I will argue (1, 2 and 3 below) are cognitively viral.³⁴ The following list, I contend, is a list of is-puzzle-generators:

- 1) Self-contradiction.
- 2) Categorical errors.
- 3) Hidden internal inconsistencies.

³² Elgin, C. Z. (1997) *Between the Absolute and the Arbitrary*, p.1-2.

³³ Yablo, S. (2001) “Go Figure, a Path through Fictionalism” p. 72-102.

³⁴ This is from another paper I wrote on epistemology entitled “Belief Radicalism and Cognitive Viruses”.

- 4) Other is-puzzles are on the outside of our present scientific and other forms of understandings. An example might be a black hole or the end of the universe.

This is fairly close to Vaihinger's project in one respect. He viewed what I am calling is-puzzle-generators 1, 2 and 3 as "full fictions" and 4 as "semi-fictions". However, he rejects assumption 1, no understanding can be gleaned from fiction. whereas I accept it. In fictions (the genre) we find play and disorder. There is a playful quality in Yablo's curious statements above. I find paradoxes intriguing because they need to be thought of in a particular way such that we *see* the contradiction. Sometimes they are difficult to see. Understandings, I intend to argue, are derived from something other than fiction. I, unlike Vaihinger, am suggesting full fictions are by definition syntactically and semantically empty. Contradictions, therefore, are not fully fictional. They exist in the way that things like contradictions exist. Fiction (the concept) on the other hand exists in the way that things like... well, nothing exists. I will call these is-puzzles (there are many) because we sometimes find ourselves wondering about strange things like the sentence *nothing is*.

It is interesting to note that according to Suárez the positivists distanced themselves from Vaihinger. Obviously they were not fond of the notion that science relied on fictions and if it did, this would generally entail poor scientific practice. But, it is clear that Vaihinger believed that science relied on fictions:

[There] are [...] fictions that figure in the scientific enterprise, and among the most prominent throughout the history of science Vaihinger identified forces, electromagnetic "lines" of force, the atom, and the mathematical infinity, as well as some of the main constructs of differential analysis such as infinitesimal, point, line, surface, and space.³⁵

³⁵ Suárez, M. (2009) "Scientific Fictions as Rules of Inference", p. 158.

I believe the positivists simply made the wrong move. They abandoned all talk of *fiction* by suggesting it was nonsense, thereby trying to ground science and mathematics on *non-fiction*. An impossible project based upon an excellent intuition. Talk of pure fiction is talk of nothing. The positivist diagnosis was excellent however the treatment killed the patient.

What then is the use of the word ‘fiction’? If we only have partial versions of the world we depict or represent, then can we ever insist on perfectly true versions? Do we often or always pass through fiction to find truth as Elgin and Goodman seem to claim? There are many other more contemporary philosophers who see no place for *fiction* anywhere. Continuing in the positivist footprints in many respects, they claim ‘fiction’ is simply meaningless. Examples of philosophers who have taken this approach include Donald Davidson and Quine. Once fictions are identified, these philosophers would prefer they be eliminated. We can call this approach, Eliminativist regarding fictions. Their scientism is apparent because they make *fiction (the genre)* unworthy of our respect.

3. Pre-philosophy. The pre-philosophic intuition we may sometimes have or have heard is that art deals with fuzzy half-truths and subjective ideas while the sciences are objective and based entirely on truth. But, if we seek objectivity, then we might want to take a closer look. The line between art and science is not as obviously hard-edged as pre-philosophers might think and we will deal with counter-arguments and some very problematic examples from both Goodman and Elgin.

4. Diverse Topics. The rich fabric of individual threads I refer to above requires that we discuss a few diverse topics which tie to Elgin/Goodman fictionalism. For example, there might be problems of representation in the arts and sciences. If so, these lead to some necessary work on denotation, reference, meaning, structures and other topics normally found in the philosophy of language. There are also epistemological questions about how representations and depictions are said to “fit” their targets.

Models are representations of a sort. Where models are concerned, we might want to consider if all abstract models are fictions? Are some models more fictional than others? What makes a model good? Or useful? How are models and agents related? Can models ever be true or false?

There are problems that relate to the general epistemological problem which can be expressed in the following way: *there seems to be a difference between our pictures of the world and the world*. A version of the epistemological problem is addressed by John R. Searle. He asks, “How does language relate to reality?”³⁶ A similar question for philosophy of science is “How do explanations relate to reality?” We can also ask: how do representations (and models) relate to targets and how do artistic depictions relate to their targets?

Still, we may be inclined to believe there is a difference between our languages, pictures, models on the one hand and reality on the other, because we sometimes make mistakes. Again, I ask, is there a road that passes through fiction to bring us to understandings or to truth? Is it the same road?

What do we know then? Reality or a version of it? Does all knowing entail knowing a version? Goodman, who described his fictionalism as irrealist³⁷ accepted this latter entailment. Elgin’s view is somewhat similar.

Goodman’s criticisms of comprehensiveness manifest his skepticism about physicalism. Although he recognizes the success of science in discovering many truths about many things, he does not believe that science can discover all truths. Nor does he believe that all accurate takes on things are articulable as truths. His criticism of uniqueness manifests a deeper skepticism. He denies that there is

³⁶ Searle, J. (1983) *Intentionality*, p. 197.

³⁷ Goodman, N. (1978) *Ways of Worldmaking*, p. x.

exactly one way the world is. Rather, he suggests, there are many ways the world is.³⁸

To rephrase one element of the problem we could ask, *in what sense is a flower itself 'true'?* There may be no necessary connection between the ontology of a flower and true statements about it.

We may notice that the phrase “there are many ways the worlds is” in the quote above, is connected conceptually to my statement, *there are very many is-forms*.³⁹ In other words, things exist in the very many forms-of-is. Similarly, things may be true in the very many forms-of-is, if they are ever true. I, therefore, present the hinge argument. This argument is the backbone of the position I am advocating.

5. The Hinge Argument. So to outline the problem:

To deal with statements of the form “Jimi was on fire” we need to do one of the following 3 options:⁴⁰

- 1) Treat the proposition as though it must only express truth i.e. the way that positivists would — make the meaning and truth depend upon being.
- 2) Treat the proposition as either literally true or metaphorically true — make meaning depend upon a kind of truth.
- 3) Treat the proposition as though it is categorically dense (conceptually structured) and meaningful under certain interpretations but not others — make meaning depend upon the sentence structure.

The problem with 1 is it generates an unwarranted rigidity – there are far too many subtleties in our natural language. This is the kind of move made in philosophy of language

³⁸ Elgin, C. Z. (2009) “Construction and Cognition”, p. 140.

³⁹ To be precise, the number of is-forms approaches the infinite. There is even an *is of infinity*, whatever that is.

⁴⁰ There may be other alternatives I just have not mentioned.

by Davidson, Putnam, Quine, David Lewis. We can call this approach to meaning epistemologism regarding meaning.

The problem with 2 is it generates an enormous number of kinds of truth; metaphorical; literal; religious; scientific, yours, mine. We can call this view relativism regarding meaning.

Finally, 3 makes the meaning of the proposition depend not on forms of being – real, less real, fictional, semi-fictional, nor on forms of truth but on categories i.e. *is-forms* or *is-functions* and the rules of symbolic structures. Truth is subjected to the categories.

This is not a coherence theory of truth. However, it is a coherence theory for sentence structure and therefore a theory of understanding. This demotes *truth* and *being* to the categories of understanding. More on this later.

6. Themes: Elgin and Goodman. Elgin has made significant contributions to the recent work being done on artistic and scientific representation. Her article “Keeping Things in Perspective” is a good example and “Telling Instances” was included in the recently published collection *Beyond Mimesis and Convention, representation in art and science*.⁴¹

Strongly connected to Elgin’s work on artistic and scientific representation is her overall approach to epistemology. I will begin with a brief presentation of a number of her most striking themes, first on fictions and then I will focus more directly on her epistemology.

7. Mirrors, Imitation and Copying the World. Does science mirror nature and does art imitate life? Elgin provides many examples which show these clichés create

⁴¹ Elgin, C. Z. (2010) “Telling Instances”.

mysteries out of very valuable scientific and artistic practices. What are we to say of “sketches, caricatures, scientific models, and representations with fictitious subjects”?⁴² How are we to handle simplifications, distortions and exaggerations? In most respects the model or the representation simply fails to match the target or referent. And in many other “telling instances”⁴³ there simply is no target to match—in artistic-fictions specifically—there is generally no referent.

Consider the well-worn question, how can a picture of *Pegasus* be a picture of a winged horse when there are no winged horses named Pegasus? I will refer to this as the no-target-problem. Here is another famous example: while 19th Century London existed Sherlock Holmes did not. Baker Street was and is a street in London made famous for its connection to the Holmes who lived at the fictional address 221B. The problem is at the heart of mathematical fictionalism also. Recall, if numbers do not exist, then ‘2’ has no referent. Is talk of ‘2’ like talk of Pegasus and 221B Baker Street?

Furthermore, Elgin notes, we can use very different and “incongruous representations” for the same target when one does indeed exist. A stick drawing of *Secretariat* is still a representation of a horse. The same goes for a marble sculpture of a *Secretariat*. We will call this the incongruous-representation-problem.

The no-target-problem and the incongruous-representation-problem both fuel our intuitions that assumption 1 (*science never employ fictions*) is wrong. They show we are not mirroring anything real but rather than we are picturing the world according to our own perspectives. On the face of it our intuition supports the notion that curves which are smoothed are not literally true and ideal gases are fictions of the imagination.

⁴² Elgin, C. Z. (2010) “Telling Instances”, p.1.

⁴³ “Telling Instances” is the title of Elgin’s article.

The no-target-problem and the incongruous-representation-problem are not mutually exclusive either. We can have incongruous representations of non-targets e.g. *many differing Pegasus-pictures*.

There are versions of real things as well as non-existent things. We can admit that there is a conceptual difference between, say, horses and winged-horses. Most of us have seen horses while most of us have never seen winged-horses. There are versions of horses represented in painting or photography and we probably have different mental images or imaginary versions of horses. What exactly are we mirroring with such a diversity of versions?

Elgin continues with a description of the world *out there* in a theme which is central to this paper and which also plays an important role in the works of Goodman. Recall the questions: “does science mirror nature and does art imitate life?” Elgin argues that copying reality would amount to replicating what William James called “the blooming buzzing confusion that confronts us”.⁴⁴ Confusion however is not our goal. We aim at “making sense” of the world around us—to “structure, synthesize, organize, and orient ourselves”⁴⁵ with purpose in mind.

We aim to understand. There are Kantian overtones visible here — “Intuitions without concepts are blind, concepts without intuitions are empty”.⁴⁶ We can also associate the view with Sellars’ “Myth of the Given”.⁴⁷ Lastly and most importantly, Elgin was highly influenced by her long time friend and colleague Goodman, who wrote in *Languages of Art*, “the Kantian dictum echoes here: the innocent eye is blind and the virgin

⁴⁴ Elgin, C. Z. (2010) “Telling Instances”, p.1.

⁴⁵ *ibid.*, p. 2.

⁴⁶ Kant, I. (1929) *The Critique of Pure Reason*, orig. pub. (1787) p. 93.

⁴⁷ Sellars, W. (1956) “Empiricism and the Philosophy of Mind”, p.253–329.

mind empty”.⁴⁸ Goodman also credits Virginia Woolf with having said: “Art is not a copy of the real world. One of the damn things is enough”.⁴⁹ As Elgin puts it:

Goodman argues, however, that we are not passive recipients of sensory inputs. From the outset we actively engage in imposing order on things [...]. We dissect experience to arrive at basic elements [...].⁵⁰

Goodman tackles imitation as follows:

‘To make a faithful picture, come as close as possible to copying the object just as it is.’ This simple-minded injunction baffles me; for the object before me is a man, a swarm of atoms, a complex of cell, the fiddler, a friend, a fool, and much more. If none of these constitute the object as it is, what else might? If all are ways the object is, then none is *the* way the object is. I cannot copy all these at once; and the more nearly I succeeded, the less would the result be a realistic picture. What I am to copy then, it seems, is one such aspect, one of the ways the object is or looks. But not, of course, any one of these at random [...] The catch here, as Ernst Gombrich insists, is that there is no innocent eye.⁵¹

To the extent that all these ‘ways of seeing’ are useful or true, how do we decide which is fictional? Again are they all fictional in some sense?

8. The Problem of “Being” and Is-forms. I unfortunately need to make another excursion based on the neologism I am proposing: the is-form. I will suggest a simple device implying that: *‘is’ is a slippery little word*, by proposing we reread Goodman’s statement above focusing on his striking use of the word ‘is’ as it ties contextually to is-forms or (**isf**); specifically our problem can be reformulated in the way that the word ‘is’

⁴⁸ Goodman, N. (1976) *Languages of Art, an Approach to a Theory of Symbols*, p. 8.

⁴⁹ *ibid.*, p. 3

⁵⁰ Elgin, C. Z. (2009) “Construction and Cognition”, p. 138.

⁵¹ Goodman, N. (1976) *Languages of Art, an Approach to a Theory of Symbols*, p. 6-7.

creates categories or concepts or more specific to Elgin and Goodman, worlds. Is-forms are not categories of being necessarily. They are categories of the understanding. However, I am not suggesting that Goodman meant to say is-form when he was using the notion of world or that ‘world’ really means ‘category’.

I am going to justify the use of this device (**isf**) based on a number of points that Elgin makes in the following passage:

Thus physics restructures its domain when it rejects the classical concept of mass in favor of a pair of concepts, rest mass and relativistic mass. Things that had been considered alike under the old categories are now deemed to be different. Paleontology advances when it classifies brontosaurus and apatosaurus as the same kind of animal. Things that had been deemed to be different come to be recognized as the same. Medicine progresses when it elevates shared characteristics of the sufferers of a disease to the status of symptoms. Aspects that had been deemed to be irrelevant come to be recognized as relevant. Statistics advances when it develops novel techniques. New methods enable us to glean new information from old data. None of these cases involves discovery of new facts. All improve the ways we think about or operate on the information at hand. Cognitive advancement often consists in reconfiguration—in reorganizing a domain so that hitherto overlooked or underemphasized features, patterns, opportunities, and resources come to light.”⁵²

We use categorical structures and concepts⁵³, in part, for the selection of particular is-forms. An **isf** creates the conditions by which certain expressions can be comprehensible.

The **isf** is expressed as an **is of x**.⁵⁴ We can therefore read “is-of” when confronted by **isf**. Here are some examples— note they are not necessarily dualisms:

⁵² Elgin, C. Z. (2002b) “Creation as Reconfiguration: Art in the Advancement of Science”. p.14.

⁵³ I link these *objects: categories, concepts and worlds* loosely to the show that: ‘Is’ is a slippery word which we use primarily to select a categorical scheme, concept or world. This will tie together as I proceed.

Jones (actor) is Agent K (character) = **isf** fiction/non-fiction
 Jones is a Homo sapiens = **isf** biology/classificatory/natural scientific object
 Jones is not the man he used to be = **isf** numerical identity/qualitative identity
 Jones is buried in London's Highgate cemetery = **isf** living/non-living
 Jones is a complete animal = **isf** metaphor
 London is being moved = **isf** abstract/concrete

I will return momentarily to the thread of Elgin/Goodman-fictionalism but I will first attempt to further explicate this point. The following passage is from *Ways of Worldmaking* in the section entitled “A Puzzle about Perception”.

1. Seeing beyond Being. Once in awhile, someone asks me rather petulantly “Can’t you see what’s before you?” Well, yes and no. I see people, chairs, papers, and books that are before me, and also colors, shapes and patterns that are before me. But do I see the molecules, electrons, and infrared light that are also before me? And do I see the state, or the United States, or the universe? I see only parts of the latter comprehensive entities, indeed, but then I also see only parts of the people, chairs, etc. And if I see a book and it is a mess of molecules, then do I not see a mess of molecules.⁵⁵

We can look at some of Goodman’s observations by using examples with the word ‘is’. Here are a few sentences expressing certain similar thoughts that he mentioned above:

- a) What I see is a person.
- b) What I see is a chair.
- c) What I see is a mess of molecules.
- d) What I see is the universe.
- e) What I see is the United States.

⁵⁴ See Korzybski A. H. S. in *General Semantics* <http://www.generalsemantics.org/wp-content/uploads/2011/04/gsb-58-ellis.pdf> consulted 10/15/2011, for his use of the expression the “is of predication”. I extend this linguistic device to other linguistic constructions.

⁵⁵ Goodman, N. (1978) *Ways of Worldmaking*, p. 71.

Besides my reflection that Goodman would not support my epistemology teacher's demand that I be certain regarding chalk, I think we may note the following. Since we are using the word 'is', we can argue that there is a relationship in these examples to the concept 'being', or if one prefers, that we are making an ontological commitment of some sort by saying something 'is'. It's not hard to see that the examples above differ ontologically. They can only be understood if we allow that they imply differing ways of categorizing being, as Goodman suggests in the title. Sentences a) and b) are part of the **isf** common sense or the **isf** macro-level objects or even the **isf** literal truth. Sentences c) and d) are part of the **isf** natural sciences and e) is part of the **isf** political organization.

Possible categorizations are unlimited. This seems to be a consequence of Goodman's views, but, I would like to suggest it simply results from the apparent fact that we can create infinite possibilities from finite rules⁵⁶. Everything is, in some way the same and in way different.

The primary argument can now be rephrased as follows: Using 'fiction' as though it is a noun implies the **isf genre** not the **isf concept**. We cannot simply conflate these two forms without finding ourselves in a verbal dispute.

9. The Domain of Is-puzzles. For the moment I will suggest we create a special domain for problematic puzzles. Call the domain: the domain of is-puzzles or (**isp**).

Consider:

- a) The universe is made of mind.
- b) The universe is made of matter which is independent of mind.
- c) The universe is made of energy.
- d) The universe is made of God.
- e) The number of numbers is 0.

⁵⁶ See Chomsky from Wilhelm von Humboldt

Add to this two fascinating ontological observations made by Quine:

A curious thing about the ontological problem is its simplicity. It can be put in three Anglo-Saxon monosyllables: ‘What is there?’ It can be answered, moreover, in a word—‘Everything’—and everyone will accept this answer as true. However, this is merely to say that there is what there is. There remains room for disagreement over cases; and so the issue has stayed alive down the centuries.⁵⁷

The second is the Quine/Putnam indispensability argument. It can be summarized as follows:

- (P1) We ought to have ontological commitment to all and only the entities that are indispensable to our best scientific theories.
- (P2) Mathematical entities are indispensable to our best scientific theories.
- (C) We ought to have ontological commitment to mathematical entities.⁵⁸

Quine’s first statement is fascinating because it draws our attention to the problem of categorization. Essentially there is an **isf** for everything and in every possible dissection. At first this seems to imply a reductio ad infinitum. We will call this the too-many-categories problem. It is not a real problem, or rather it is only as problematic as there being an everything in the first place. (P1) cuts the categorization down to the objects that science needs. This is an excellent re-definition of scientism by the way. Curiously, and humorously we may note that the argument rides upon the **isf** ought. Ought *is* in some sense. Even Putnam and Quine used it in their indispensability argument i.e. that seems to make *ought* indispensable to the argument. Give to science what it needs because well, it seems like the right thing to do. This is why an example of why positivism failed and

⁵⁷ Quine, W. V. O. (1948) “On What There Is”, p. 21.

⁵⁸ Colyvan, M. (2011) “Indispensability Arguments in the Philosophy of Mathematics”, *The Stanford Encyclopedia of Philosophy*, Zalta E. N. ed., <http://plato.stanford.edu/entries/mathphil-indis/> consulted on 10/29/2011

metaphysics was reborn in the analytic tradition. Metaphysics is dead... Long live metaphysics.

Isf ought may be an is-puzzle but there are definitely far more problematic ones. For example, the **isf** nothing, the **isf** art objects, ideal gases, perfect vacuums (as opposed to partial vacuums) and holes.

10. The Kantian Problem Versus the No Target Problem. We should, I believe, distinguish the no target problem from what I am going to call the Kantian problem.⁵⁹ The Kantian problem implies, as stated above, that there is no given; there is no non-perspectival view; no God's eye view for humans (at least); no innocent eye free of human interests. Let's allow for the sake of argument that we can either posit a mind-independent-world or not and that it makes no difference either way to what really counts i.e. what we know. We can call it the isf objective reality.

The Kantian problem can be an extreme interpretation of the no target problem. In essence, it can be interpreted to imply that all targets we know are targets we have made. While this might very well be the case, we nevertheless need to draw a distinction between things like *Pegasus* and things like *Secretariat*.⁶⁰ However, in the mean time we can see that the Kantian problem must nonetheless lead us to a distinction between representations of *Secretariat* as well as representations of *Pegasus*. Neither of the two fully exists

⁵⁹ There are many versions of the problem in earlier works. Kant was reacting to the rationalists who held that we could get to know the way things are in themselves through reason and he was also reacting to Hume's empiricist scepticism, i.e. if we have only sense experience, we can never get to know things as they are in themselves. Even causality is rendered suspicious. Kant's solution i.e. the so-called Copernican revolution was to place causality and other categories he deemed primitive to the very possibility of understanding. The problem for critics is that this move seems to render everything a mental object.

⁶⁰ There is a very interesting element to deal with here, which I will consider more completely later on when I consider reference in natural language from an internalist perspective.

independently of mind if they are things we know. Fair enough, we may concede this point. But, the no target problem deals with representations like *Pegasus* in particular. *Pegasus* is ‘stuck in our heads’ in a way that *Secretariat* is not. The likelihood of there being an enormous conspiracy to hide the winged-skeleton of *Pegasus* while forging the footage of the *Triple Crown* is nil. Philosophers who overemphasize the Kantian problem have no way of distinguishing between things like *Secretariat* and things like *Pegasus*. Understanding ‘understanding’ probably requires we distinguish between the Kantian problem and the no target problem. All the subtle variations of realism and idealism are attached to this story in some way. I would suggest here that is an is-puzzle (isp) at work. I will not detail it other than to say, that at its extreme, the Kantian-problem converts everything to the no-target-problem. This is, arguably, the nihilism that generated many of Kant’s more extravagant descendents.

The is-form (isf), involved, is the “is of nothingness” and we will put it in the domain of is-puzzles (**isp**) for obvious reasons. Note however, that we can, if we wish, distinguish *Secretariat* from *Pegasus* by attaching both to a large number of classes. The **isf** we have been considering as the topic of this thesis is the **isf** fiction versus non-fiction. But, we can also categorize in other ways. For instance, the **isf** horses versus non-horses; the **isf** famous horses versus unknown horses; the **isf** hoofed mammals versus non-hoofed mammals.

Socrates, we may notice, and *Secretariat* can both be categorized by the **isf** wingless versus winged and by featherless versus feathered while both *Socrates* and *Pegasus* by the **isf** Greek history versus non-Greek history.

Ultimately, as I mentioned above, there is no too-many-categories problem because categories are at the core of our capacity for understanding. Nonetheless, not all categorizations are created equal.

Is there no way the world is? Is the thing-in-itself, itself a fiction? Even Kant seems to have been unable to make up his mind. An instrumentalist fictionalist might claim: *even if there is nothing in itself, perhaps we need to assume the existence of such a thing*. The thing-in-itself must exist in some **isf**, at least to the extent that it generates an **isp**. The same can be said of other minds also. We will, therefore, also place the problem of philosophical zombies into our domain of **isp**. Rejecting the thing-in-itself seems to push us toward solipsism. It seems we need the category **isf** internal/external as well as subjective/objective. The world may turn out to be made of mind but if it is, it is likely not made of my mind alone.

11. Understandings. We will, therefore, need to define ‘understanding’ as something ‘we’ do. Concentrating on fictional representations, perhaps we can obtain some insights about understanding.

To Elgin, mirroring the real entails mirroring what William James called the ‘blooming, buzzing confusion’ *out there*. Elgin turns the tables on the problem by stating:

[S]ince understanding is not mirroring, failures of mirroring need not be failures of understanding. Once we recognize the way science affords understanding, we see that the features that look like flaws under the mirroring account are actually virtues.⁶¹

Not everyone is going to agree with Elgin on this idea. Staunchly realist philosophers will likely say we simply have not understood enough. Complete understanding implies understanding everything and therefore perfectly mirroring the mind-independent-world. What we leave unexplained is a sign of our failure to understand perfectly. Elgin is sympathetic to both instrumentalists, who consider the project as it stands now, arguing scientists are tool-makers, though they may be understanding something, and she is also

⁶¹ Elgin, C. Z. (2010) “Telling Instances”, p.2.

sympathetic to realists. She states, “[o]r one can take a realist stance and say that the phenomena are a product of signal and noise, and that the models just eliminate the noise.⁶²” One might notice, that instrumentalism is not necessarily incompatible with weakened versions of scientific realism i.e. the view that there is a mind-independent-world that we can know through the sciences, even if only by approximation. Instrumentalists often see *fictions* as necessary tools in the advancement of science. Elgin, however, is clearly anti-eliminativist regarding fictions.

12. The Primitive Hierarchy Problem. It’s difficult to create a hierarchy of concepts or categories. How do we decide which is the more primitive? Some may argue that it makes no difference; all roads lead to Rome. For example, are the differences between the sciences and the arts more primitive than the concepts of denotation and representation or is it just the opposite? We can see in what follows that for both Elgin and Goodman, the latter appears true. Both the sciences and the arts, they argue, can be ways we represent the world. Representation becomes the primary foundation for both authors.

Recall our pre-philosophical view that the arts are fuzzy and subjective while the sciences rest on true and solid foundations—never fictions—after all science is founded on fact.

But, perhaps as Elgin points out, there are many examples of fictions regularly used by scientists. For example, are there frictionless planes, ideal gasses, smoothed curves and perfectly pure liquids? How about strange mathematical entities like Pi and Aleph null? We use Pi all the time but it’s an uncompleted number? Why should we use Pi before it is perfectly calculated? Can it ever be perfectly calculated? These are serious counterexamples to assumption 1 (*that science never relies on fictions for gleaning understandings*). The early positivists would claim the point is moot—there are simply no

⁶² Elgin, C. Z. (2010) “Telling Instances”, p.13.

metaphysical concerns—existence questions are non-problems. But, how would the positivists handle approximations, infinities, π , smoothed curves and frictionless planes? These are epistemological riddles, not metaphysical ones, or so they would argue. Strictly speaking these things are false, yet they are used by scientists all the time. And if they are false, should we not be calling them fictional? After all, they are representations of non-targets. It is one thing to be hard-headedly-eliminativist regarding fictions in the arts and another to eliminate π .

Suárez offers other examples including the “ether”, and the “plum pudding model of the atom”:

Maxwell remained resolutely skeptical regarding the existence of the ether. The mechanical models of the ether were gradually stripped of ontological content as the dynamical equations were developed, yet these mechanical models remained indispensable to scientific theorizing, according to Maxwell, “as heuristic devices, or at best, descriptions of what nature might be like” (Morrison, 2001).⁶³

The case of atomic models illustrates another possibility: a model of a putatively real entity that was never taken very seriously”.⁶⁴

According to the plum pudding model, the atom is a roughly spherical sponge formed by evenly distributed positive charge in which minute negatively charged particles (“electrons”) are inserted, like raisins in a traditional British Christmas cake. The model had the great advantage of explaining ionization phenomena, whereby negative charged particles are bounced off atoms by collisions with other atoms, creating electric currents.⁶⁵

It would seem obvious that the notion that a model has raisins does not imply that all the features of raisins and cake are explanatory. If interesting calculations resulted from the treatment of the atom as a cake, this would seem problematic for those who support

⁶³ Suárez, M. (2009) “Scientific Fictions as Rules of Inference”, p. 160.

⁶⁴ *ibid.*, p.159.

⁶⁵ Suárez, M. (2009) *Op cit.*, p.162.

assumption 1. These are more like historical facts. We may wish to change our negative assumption to a positive hypothesis in search of plenty of evidence:

Hypothesis 1: *There is plenty of evidence supporting the view that scientists use fictions ubiquitously.*

We can call the view that these are only examples of past failures, the argument from failed science. Unfortunately, this argument is of little help until science is actually completed, something that may be impossible. Elgin, Goodman and Suárez supply ample evidence showing that scientists use metaphors of this kind as much now as they ever have.

Models of stellar structure in astrophysics provide a description of the inner workings of a star; in particular the fuel burning processes (nuclear fusion) that turn hydrogen into helium and generate the star radiation, while accounting for the star life cycle and evolution. These models match up the observational quantities of a star, which mainly pertain to the properties of its photosphere, that is, the outermost layer of the star. [...] These models make at least four assumptions that are widely assumed to contradict either the physics of matter and radiation, the physical conditions of the interstellar medium, or both. Hence the models are knowingly strictly speaking false of real stars.⁶⁶

And...

the quantum theory of measurement fails to describe real quantum measurements, and the model expresses a fiction—to be exact, a *semi-fiction* in the terminology of Vaihinger, because it contradicts empirical reality.⁶⁷

Vaihinger distinguished between fictions i.e. necessarily false and semi-fictions i.e. empirically false. The point is that theories would deflate by virtue of incoherence.

In Vaihinger's terminology, the quantum theoretical model of measurements

⁶⁶ *ibid.*, p.163.

⁶⁷ Suárez, M. (2009) *Op cit.*, p164.

is a *fully fledged scientific fiction*.⁶⁸

Suárez, distinguishes fictions in the arts from fictions in the sciences based on Vaihinger's notion of "expediency". Granted, artistic fictions do not appear in a hurry. The distinction for Suárez is cognitive; Scientists do not 'make-believe' in the way that we do when confronted with *artistic-fictions*. This may be a superficial distinction. However, the main point Vaihinger makes is that inferences in scientific-fictions are aimed at "prediction".⁶⁹ Suárez calls his thesis: the inferential conception of scientific representation. It opposes two other versions: 1) the isomorphic conception and 2) the similarity conception.

Those who hold either the isomorphic conception or the similarity conception have problems overcoming the no-target-problem. For example, if there is no *ether* then what exactly is the structure that includes *ether* actually representing?

According to the isomorphism account, A can only represent B if they share their structure. But in the case of fictional representation this is either false or an empty truism, for it seems impossible to ascribe structure to a nonexistent entity. If the ether does not exist it can not possess any real structure, so isomorphism can not obtain.⁷⁰

[According to the] similarity account [...], A represents B if and only if A and B are similar. Then if similarity requires the sharing of actual properties between A and B, there can be no "fictional" representation in science because B lacks any real properties. We cannot represent the ether by means of models that share actual properties with the ether if there is no ether.⁷¹

⁶⁸ *ibid.*, p. 168.

⁶⁹ *ibid.*, p. 168. The notion of prediction is insufficient for expressing the subtlety of the scientific method. It is an element and common in recent literature of philosophy of science. There are many other elements which I will discuss in Chapter 3.

⁷⁰ Suárez, M. (2009) *Op cit.* p. 172-173.

⁷¹ *ibid.*, p. 173.

It is interesting to note that Elgin/Goodman fictionalism and Suárez's Vaihinger-influenced inferential fictionalism do not make the kind of ontological commitment that both the isomorphism account and the similarity account ultimately must make. All aspects of theory making remain in our heads. Theory making is a cognitive activity after all. Theories are "brain-children" or "artefacts".

Nonetheless, fictionalism is not clearly incompatible with making an ontological commitment to a mind-independent world, as most scientists do. It should be noted that while there is no way the world is to Elgin/Goodman fictionalists, there are indeed ways that worlds are. In effect, pluralism does a reasonable job dealing with fiction and non-fiction by attaching the concepts to worlds.

Bunge's fictionalism is different. Jean-Pierre Marquis explains that Bunge maintains the view that mathematical entities are fictions and can be categorized in a class of things that includes "Donald Duck" and "Don Quixote".⁷² Furthermore, they are *unchanging*, *immutable*; they *lack energy*, they are *conceivable* and *context dependent*. Material objects, on the other hand, have energy, their existence is absolute and mutable. We can argue that as an emergentist materialist, Bunge emphasises the category **isf**: made by an animal brain versus made by an animal brain related to the real world, i.e. formal versus factual. This makes concepts like mathematical structures and categories brain children and subject to the rule of reason, while it makes statements of fact subject to the study of *the real world*. We can see there is a similarity to Vaihinger's philosophy of as if. We treat these mathematical entities *as if* they are real. We, thus derive many new categories **isf**: conceptual entities versus real entities and mathematical entities versus spatio-temporal entities. This tends to beg the question. Are *as-if's* really just worlds? Don't nominalists tell

⁷² Marquis, J.-P. (2011) "Mario Bunge's Philosophy of Mathematics: An Appraisal".

us we can categorize in any direction? But, maybe this is an error. Understanding is not simply the act of categorizing. Perhaps by ‘understanding’ we ultimately imply a chain of categories in a specific order. For example, some categories are far more local than others. In the section on the domain of **isp** I will hopefully quell some of my own misgivings about this problem. I suspect here that it will lead to old news. There is a vast literature on the role of locality in causal explanations in philosophy of science, for example. The idea that the Big bang caused the inkwell to fall is insufficiently local. And the same kind of point can be made about how God caused some of us to catch the measles and not others. There is another **isp** lurking in this section: the **isf** causality.

I would suggest that the above is what Bunge and Marquis have in mind by specifying the “essential distinction” in what follows:

The essential distinction, as far as epistemology and the philosophy of science is concerned, is that between truths (or falsities) of reason and truths (or falsities) of fact. (Bunge, 1974, p. 170)

Bunge later more or less pushed to the side the distinction between analytic and synthetic propositions. It is simply replaced by the distinction between formal and factual propositions.

The preceding classification is more correct than either of the popular dichotomies analytic/synthetic or a priori/a posteriori. For one thing the concepts of analyticity and a prioriness have not been well defined except in extreme cases. Thus, a tautology is clearly analytic, but what about a theorem in theoretical physics, which has been derived by purely conceptual means? And an empirical datum is clearly a posteriori, but what about a factual hypothesis not built inductively and which happens to anticipate experience correctly? Neither of the two distinctions amounts to a dichotomy, hence neither is a sound principle of classification. (Bunge, 1983, p. 181)⁷³

⁷³ Marquis, J.-P. (2011) “Mario Bunge’s Philosophy of Mathematics: An Appraisal”.

There may be a hierarchy of concepts or categories related to specific examples of understanding. Now, we have factual versus formal. What is more surprising is that there may even be a hierarchy of is-puzzles (**isp**).

13. Fictions, Features and Facets. If there is an important ‘joint’ in categories regarding fiction-kinds (artistic, scientific and other), it may lie elsewhere. I begin by outlining another possible criticism (the one I support) of Goodman/Elgin fictionalism.

Let’s consider filmmaking for a moment. Presumably, *documentaries* need to be distinguished from *fictions*. I would like to suggest that we consider the possibility that there are fictions on the one hand and something I will call facets on the other. Both fictions (the genre) and facets can have features of the world. I use the word ‘facet’ because it invokes a connection to a target or referent that fiction does not. Note that facets are not the same as facts.

I propose therefore, that we further distinguish between what I will call scientific-facets as opposed to scientific-fictions and in parallel between artistic-facets and artistic-fictions. A first attempt might be as follows:

Definition 1: Scientific-facets and artistic-facets have a connection to the real world in a way that fictions do not.

This may help us distinguish between science and pseudo-science and between representational art and purely sensual abstraction. The following are preliminary examples of scientific-facets and scientific-fictions:

- A) Phlogiston is a scientific-fiction.
- B) A frictionless plane is a scientific-facet.

The following are examples of artistic-facets and artistic-fictions:

C) Warp drive (travelling through space at speeds many times faster than light) and a bronze sculpture of Pegasus are artistic-fictions.

D) Film footage of Secretariat and footage of the bomb that fell on Hiroshima are artistic-facets.

At the core of this distinction is some kind of as yet undetermined *connection*. Phlogiston is disconnected, while *frictionless planes* are connected. I will not attempt to define this notion of ‘connection’ here but it strikes me that connection to the world results in things like explanations and predictions. This says nothing about whether representational art is in some sense better than sensual abstraction or whether documentary footage is better than warp drive. That would be like asking if work is better than play or if dreams that make no sense are just not worth having.

Where artistic representations are concerned, we could notice that a *bronze sculpture of Pegasus* and *documentary footage of Secretariat* both feature elements of horses.

Two problems with this approach come to mind:

1) It requires that we properly separate the facets from the fictions in any context. This is easier said than done. The classic example for this idea is quantum mechanics. It is little wonder that Richard Feynman stated, “I think I can safely say that nobody understands quantum mechanics”. Distinguishing the mental machinery from the real is the problem.

2) Thought experiments i.e. often fictional, seem to play a necessary role in the sciences and everywhere else.

At any rate, with these preliminary distinctions in mind I return to a more detailed exposé of Elgin’s work.

14. Representation and Denotation. Elgin notes that the word “representation” is polysemous. She attempts to *regiment* for the sake of explication by specifying that “all

representation is a matter of denotation”. Pictures, charts, models and maps represent any particular target by denoting the target.

We should note that this position is a form of representationalism. This is another intriguing element in the debate. We note above, in the section on primitive hierarchies that representation and denotation are the foundation of Goodman and Elgin’s work. This places both authors in a particular tradition. They are descendents of phenomenalism, ultimately a branch of Empiricism. But, we can argue in a different direction. Perhaps there are things which are not representations. For example, structures. I re-introduce this notion here in passing and it will come back further on. We can call the idea that representations are not primitive: anti-representationalism regarding structures.

We can return to the no target problem since we are currently attempting to understand how Elgin unpacks denotation and representation.⁷⁴

- 1) One can insist that denotation of a target implies the existence of the target.
- 2) One can allow that any target we denote need not exist (be fictional) or can exist abstractly. For example, accept that both a Sherlock Holmes-picture and the name *Sherlock Holmes* denote a fictional character.⁷⁵

⁷⁴ Gallons of philosophical ink have been spilled over these two concepts. For Frege, denotation implied truth. If one works their way through the implications of the no target problem in denotation, one will probably arrive at some kind of ontological argument (e.g. Descartes and Anselm). Does the clear and distinct idea of a non-target create the target? Well, probably not. The same can be said for Kant’s transcendental arguments. Must the mind-independent world follow the world of mind? The ontological argument for the existence of god (or anything else) hinges on some kind of common sense argument. In Anselm’s version, it is the meaning of ‘god’ – in Descartes’, the clarity of an idea. But, does common sense necessarily tell us what is *out there*? It does not seem like it.

⁷⁵ Elgin follows Goodman in suggesting that things exist in their specific “worlds”. So *numbers* exist in the mathematical world and *Sherlock Holmes* exists in the world of the imagination.

In pursuit of a resolution to the no target problem, Elgin follows Goodman by drawing a distinction between *representations of p* and *p-representations*. The distinction is a device which helps us separate cases where the target exists from cases where it does not exist. So a *representation of p* implies p exists or has existed whereas in the case of *p-representations* the existence of p is not a necessary condition. We refer therefore to Pegasus-pictures and to ideal-gas-models without assuming winged-horses and ideal gasses must exist. We can refer to the *death mask of Dante* and a *model of the Empire State Building* because we accept that Dante did indeed exist and that the Empire State Building still does.⁷⁶

Notice that a p-representation and a representation of p work for any kind of representation. So, we should if we wish to adopt the device, state for example, *this is an ideal gas-model* and not *this is a model of an ideal gas*.

We can see, however, that the device creates a class of things that includes both ideal gas-models as well as Pegasus-pictures. Perhaps, conflating these two very different things creates a substantial problem. Our categories have become crossed. Of course, we are free to categorize in any way we would like. The goal, however, is to limit confusion. Here is why:

Let's consider the possibility that the-representations-of-p-versus-p-representations-distinction fails to encompass the notions of prediction, manipulation and explanations, which are dear to the sciences, whereas the distinction I suggested above between fictions and facets does. This is still only a preliminary attempt.

Thus a Pegasus-picture is an artistic-fiction while the ideal gas-model is a scientific-facet. The point is that there is a connection between ideal gas-models and the real world

⁷⁶ There are probably many questionable cases where we cannot decide whether a target existed or not.

that renders these kinds of models useful in a very specific way. That connection stems from an implicit feature of the model that is in the world. This tends to weaken the case for fictionalism. Perhaps it is not from fictions that we glean understandings—though fictions (the genre) can certainly be fun—rather maybe it is from facets alone, that understandings are derived. No doubt fictions (the genre) exemplify features of the world as do facets – however, let’s now further define ‘facet’ as a having (not representing) key features so ordered as to have explanatory power and predictive power.

Definition 2: a fiction is a representation exemplifying one or more disorganized features.

Definition 3: a facet exemplifies features organized in such a way as to render explanations, manipulations and predictions possible. A facet, therefore, can be metaphorically represented by a key – a key must be made in a particular way to open a lock. The hills and valleys on the shaft of the key, while they are features, are not sufficient in and of themselves.

Continuing the exposé with the above in mind: Elgin further addresses the enduring philosophical puzzle (the no target problem) by discussing “genre”. Consider the example of Charles Schulz’s cartoon character *Snoopy*. Snoopy-pictures are simply part of the genre of cartoon pictures—they belong to a particular genre of representation. “Some representations denote their ostensible objects [...] others fail to denote [...] anything real”.⁷⁷ Elgin argues that Snoopy-pictures really denote the genre while pictures of Abraham Lincoln denote Abraham Lincoln.

Has Elgin only skirted the problem? If a genre can be denoted then why does ‘existence’ include *genres* but not *Snoopy*?

I may be misunderstanding both Goodman and Elgin. The notion of *genre* is actually hugely useful. They raise it and it seems to me (though I may have misunderstood their

⁷⁷ Elgin, C. Z. (2010) “Telling Instances”, p.3.

reasoning) that they do not to fully take advantage of what it implies. When I speak of *fiction* I mean to speak of the *genre* which incorporates features. But, in fiction, features are incorporated in a particular and often playful way. One of Goodman's salient points about art is that it always exemplifies. Features are always present. My point, however, is that when features are well organized they contribute to understanding. We learn from faceted features in fictional narratives. While the notion of genre is central to my work here, we may recall that Vaihinger distinguished semi-fictions from fictions. I, on the other hand, posit that *fiction* (the concept) represents the empty set and that all representations (scientific or artistic) are unreal and faceted by degree.

Continuing again: In Goodmanian terms, and Elgin would likely agree, the notion of *genre* is part of the notion of what they mean by "world". The snoopy-picture selects the genre in a world (cartoon arts) in which Snoopy exists. *Snoopy* therefore denotes a real thing (fictional target) in a fictional world and nothing in the common sense real world. In the world of possibilities, for example, Snoopy cannot come to life as a real dog. "Snoopy is a dog" is adjusted to "Snoopy is a cartoon dog".

We can see that the notion of worlds depends on categorical distinctions. It does not, however, imply strict and forceful joints.

Bunge and Marquis draw a similar key categorical distinction to the one which I am presenting herein. The distinction runs perpendicularly (in the opposing direction) to the representations-of-p versus p-representations distinction. Rather than to categorize fictions versus non-fictions, Bunge and Marquis categorize brain-children versus real and mathematical-children whose truth is coherentist (reasonable and formal) versus scientific, where truth is factual. Essentially, Bunge and Marquis create a class, which contains many similar entities as does my approach. I contend, however, that the Bungean approach will fail over the definition of the word 'real'.

This may be because my impression is that epistemology has not yet provided a satisfactory explanation of *knowledge*. What is really *real* can always be Gettierized⁷⁸ as is noted by Elgin. Externalists regarding Epistemology argue “it is possible to know that you know” – we need not have justifications. I begin to wonder about “cardboard cows” and “fake barns” and wooden chalk. This is the heart of the debate between the representationalist (constructivist) camp and the realist camp (Bunge). To Elgin, Goodman, Kant, everything is a construct or a brain-child. Do we perceive a star or a perspective of a star? Is a photograph of a star, the actual star? Does the photograph cause the star? All camps studied so far are idealist regarding brain children. The question we are asking is where to draw the line. Bunge is clear: at the line created by causality. Our photographs do not cause stars to be. We will leave this to the chapter on Elgin’s epistemology.

15. Mathematics and the Problem of Identity. We return to the example of an epistemology professor who exclaimed, “Of course $2+2=4!$ ” In *International Journal of Mathematics*⁷⁹ one might find a fascinating article⁸⁰ explaining that mathematicians worldwide have agreed to replace the equal sign for another sign altogether. As it turns out the equals sign in $2+2=4$ is not unlike Saul Kripke’s rule following paradox, (plus/quus) more like *equals/quequals* actually. Furthermore, in a less technical article we could read:

Mathematicians, it appears have replaced the lowly ‘=’ sign, whether we like it or not. This hardly made the news. Nevertheless, it will take years before it becomes part of your child’s curriculum. Text-books are all to be rewritten based, as it turns out, on

⁷⁸ Gettier, E. (1963), “Is Justified True Belief Knowledge?” p. 121-123.

⁷⁹ *The International Journal of Mathematics*, vol. 22, n^o. 10, <http://www.worldscinet.com/ijm/> consulted on 11/8/2011.

⁸⁰ McDean, Elmer. “Mathematics and the Problem of Identity”. *The International Journal of Mathematics*, vol. 22, n^o. 10 <http://www.worldscinet.com/ijm/> consulted on 11/8/2011.

difficulties over identity and we will even require new calculators and keyboards no less. It seems:

a) $2+2=4$

is no longer meaningful. What are we supposed to say, according to mathematicians? $2+2$ is a model of 4. Short hand: 2^2 models 4. The operator for representing modelling is: \cong

b) $2+2\cong 4$

The rationale is simple. How can two things be equal to one another if they look so different? In the world in which we purchase apples with money, there is an arbitrary quality in the idea that four apples equal two dollars. This, unfortunately, won't affect your pocket book.⁸¹

I admit, that I have often wondered why differences of position (to the left of and to the right of), typography, difference in symbol, did not disturb mathematicians. It turns out, this bothered many all along.

The same kind of notion apparent applies to probability. Does probability model phenomena? We could model the flipping of 2 coins – for example, what are the chances of event A (heads) and event B (heads) occurring across two coin flips? We once wrote:

$$P(A \cap B) = P(A)P(B) = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

Now, we will write: $P(A \cap B) \cong \frac{1}{4}$

I must apologise to me reader at this point because the above is entirely fabricated. Nonetheless, it cannot be shown that this equals replacement scenario will not happen. It cannot be shown that Bunge's modelling operator is not simply better than the equal sign

⁸¹ Durds, Stan. "Equals Gets the Boot". *Everyone and Science*, vol. 9, n^o. 2
<http://www.everyonescience.com/miu/> consulted on 11/8/2011.

because it is actually more correct.⁸² However, I repeat my apology and assure that I will not attempt to mislead again. My efforts here are genuine and honest at best and at worst, simply, misguided. This experiment, I hope, will prove relevant at the end of this exercise in my discussion of agency. I will call it the white lie argument.

We may notice that 1) what makes a lie work is the extent to which the features in the lie are organised such that the lie is said to be believable 2) what makes a lie, a lie, is that the connection to the world is ultimately disorganised. If we follow the footnotes above, we will arrive at a dead end. The lie simply cannot be regarded as fictional (the concept) because it would be without any facets whatsoever.

We could therefore begin with how Chomsky puts it, "...we cannot assume that statements (let alone sentences) have truth conditions. At most, they have something more complex: 'truth indications'...".⁸³ If we think of ourselves as scientific regarding our human predicament, there is a strong sense in which all questions begin from a neurological and biological starting point. And when at our best, I believe we proceed evidentially. Please note however that I accept that deductions are evidential and therefore I am not supporting empiricism.⁸⁴ I am supporting the scientific method as well as warrant based belief epistemologies.

The point of this experiment was to show that we are dependent on each domain for indications of how we are to proceed regarding what to believe. Mathematics, science, art

⁸² This is actually Bunge's modelling operator. See Bunge, M. (1973) *Method, Model and Matter*.

⁸³ Chomsky, N. (1996) *Powers and prospects: reflections on human nature and the social order*. p. 52.

⁸⁴ My account may differ from Chomsky's. My tendency is to view perception itself as a kind of language with truth indications.

require different approaches. Marquis describes how Bunge draws a hard categorical line in the following:

Thus, in Bunge's system, we have contextual existence predicates and therefore at least two different existence predicates: one for real existence and one for ideal existence. Here they are (Bunge, 1977, p. 157):

Definition 6

1. x exists conceptually =df For some set C of constructs, $E_C x$;
2. x exists really =df For some set Θ of things, $E_\Theta x$.

The astute reader will have observed that there are numerous existence predicates in fact, just as many as there are contexts of relevance. Thus Bunge introduces an existence predicate for the set M of characters in Greek mythology and an existence predicate E_M for these. One wonders how these existence predicates arise and are related. One can say that the foregoing axioms tell us that the two predicates in definition 6 are certainly the most fundamental. Thus, every character in Greek mythology is certainly a construct. Notice that conceptual existence and real existence are mutually exclusive, i.e. an object cannot exist both conceptually and really. Thus, we have two parallel realms, so to speak. However, we know that the realm of conceptual existence depends upon the realm of real existence, via thinking brains. Thus, although concrete existence and real existence are mutually exclusive, the former depends upon the latter for its being. The link between the two realms is left completely unspecified.⁸⁵

The category which is primitive to Bunge is **isf**: *real thing versus ideal construct*. This, however, and for example, would seem to entail that pain and suffering are neither 'things' nor 'brain-children'. But, certainly they must be real. Defining the notion of the real is extraordinarily complex. Are peoples (groups of people) real for example? Saying only living individual persons are real could work toward creating just societies but then we have to deal with corporations which are clearly not real by Bunge's definition. I have moved to the political sphere for a moment and will not continue here. Our solution, in my

⁸⁵ ⁸⁵ Marquis, J.-P. (2011) "Mario Bunge's Philosophy of Mathematics: An Appraisal".

view lies in the recognition that categorizations cannot be avoided; they are in our ability to communicate. This leads us to admit that all categorization are unreal and interconnected to some degree.

We are beginning to see the vague possibility of this being a verbal dispute. If categories are not agreed upon beforehand we are involved in category mistakes. Inevitably, unless we speak in the same is-forms, we cannot understand one another. Both Bunge and Elgin might be bothered by this insinuation. However, they are clearly at odds on how to prioritize the ontological joints. It would seem to me that no sooner is an ontological joint drawn than some philosopher finds an exception. On bad days, we wonder how we will ever get anywhere. The facts remain clear, that these are burdens not for philosophy alone, but, for all domains. The way out to some extent is through philosophy. Another **isp** is at work: the **isf** *ontological joints*. More on this later.

Elgin's approach to the no target problem is to embrace it. What counts is not how we use the word 'denotation' but whether we can tell the difference between fiction and non-fiction. This is what it seems Elgin uses the device to accomplish, while more or less avoiding the no target problem i.e. denotation of the non-existent.

It is interesting that many of us can recognize the various Snoopy-versions, for example, Snoopy crying, dancing, laughing etc. We even recognize fairly poor Snoopy-renderings as Snoopy-renderings. Early Snoopy-versions by Schulz are very different from later versions, as are versions by other cartoonists and amateurs. This is covered by Elgin, as we shall see, when she unpacks exemplification.

I would like to propose an alternative 'ism' to fictionalism. Let's call this alternative, Facet-ism.

Definition 4: Facet-ism implies that all 'understanding' depends on a specific form of recognition and organization of features such that an adequate explanation, or manipulation or prediction is made possible.

Understanding is, therefore, simply the recognition of ‘specifically ordered features’ generating ‘facets’ i.e. features organized in a specific way and creating structures or constructs. This would seem to include categories and concepts organized in a specific order. Facet-ism is really some kind of constructive structural realism.⁸⁶ Unlike Bunge and possibly Marquis, I claim there is no inherent ontological joint on the one hand between works of conceptual nature e.g. mathematical constructs and other constructs e.g. mental models; pictures, narratives and non-constructs on the other. There are only degrees of fiction (the genre) and facets by degree. And these are aspects of all narratives. This allows us the possibility (in part following Vaihinger) of distinguishing mathematical-fictions i.e. contradictions from mathematical-facets (note that what Vaihinger called “semi-fictions” are in my view simply facets).

The facetist irrealist argument has occurred over a few pages and is summarized in definition 4 above. We can fairly suggest that structures are in the world. Facetism is incompatible with Elgin/Goodman fictionalism and with Bungean fictionalism for it is incompatible with all forms of fictionalism. Facetism is not incompatible with either irrealism or with certain elements of Bungean emergentist materialism. I will call Elgin/Goodman irrealism: fictionalist irrealism and work to distinguish it from my option facetist irrealism.

We should note here that the position Elgin and Goodman hold (i.e. irrealism) does not imply that there are no structures, but rather, that all structures are only a way of looking at the world. A structure is but one way the world is imagined to be among an infinite number of other possible ways. Once sought after, the structures are indeed there in the world. They disappear as soon as we stop finding them. Bunge would agree this is true of mathematics and other fictional domains, but false in science and common sense.

⁸⁶The word ‘structuralism’ has had a problematic history.

For example the Pythagorean theorem exists in the sense that it belongs in Euclidean geometry. Surely it did not come into existence before someone in the Pythagorean school invented it. But it has been in conceptual existence, i.e. in geometry, ever since. Not that geometry has an autonomous existence, i.e. that it subsists independently of being thought about. It is just that we make the indispensable pretence that constructs exist provided they belong in some body of ideas—which is a roundabout fashion of saying that constructs exist as long as there are rational beings capable of thinking them up. Surely this mode of existence is neither ideal existence (or existence in the Realm of Ideas) nor real or physical existence. To invert Plato’s cave metaphor we may say that ideas are but the shadows of things—and shadows, as is well known, have no autonomous existence. ((Bunge, 1977, p. 157), our emphasis).⁸⁷

It should be clear that I am not denying the categorical joint between what we ordinarily think to be real and say numbers, shadows or ghosts. Rather, I am arguing there are infinitely many real joints and our language contains the capacity to reconfigure them for many kinds of reasons.

Elgin is fairly unsympathetic to David Lewis’s skepticism regarding structures. She summarizes Lewis’s argument:

Even if we knew that the world has the structure our science ascribes to it, we might still be wrong; for although that structure is a genuine structure it might still be the wrong structure. The order we have discovered may not be the natural order. Indeed the actual world might be so gruesome that laws [...] could be laws humans beings have no reason to believe.⁸⁸

Elgin responds showing her instrumentalist colours by saying science is a “meritocracy [...] For the purposes of science, all schemes of organization that enable us to

⁸⁷ Marquis, J.-P. (2011) “Mario Bunge’s Philosophy of Mathematics: An Appraisal”.

⁸⁸ Elgin, C. Z. (1997) *Between the Absolute and the Arbitrary*, p. 37.

make maximally good sense of things are equally worthy [...] And making good sense has to be measured by our own standards; for we have no other.⁸⁹

There is no doubt that facetist irrealists and other irrealists are faced with the problem I will call the infinity of possible structures. This is another way of talking about the too-many-categories-problem. The constructivism of Elgin and Goodman links the structures to our heads but does not imprison them there. We pick the structure and we decide if it works. We do not find a pre-structured-structure *out there* as realists would claim.

If this is the case, then strictly speaking: *are structures always fictions, even when they work?* To contend that the workable structure is a fact-of-the-mind-independent-world and not a thing-in-our-heads goes too far for both Elgin and Goodman.

Facetism, nonetheless, remains temporarily compatible with our Strong and Weak Theses.

Weak Thesis Statement—*both the arts and sciences can contribute to understanding. They are invaluable forms which may always function in radically different ways on radically different domains.*

Strong Thesis Statement—*the arts contribute to the understanding of a domain that is fundamentally inaccessible to the sciences.*

I, therefore, propose two preliminary theorems based on the interconnection of concepts local to the notion of *fiction*, in other words, they derive from my 4 definitions supplied above:

Theorem 1: *For all x: If x is a facet, then x is any set of organized features leading to understanding.*

⁸⁹ *ibid.*, p. 37.

Theorem 2: *For all x: If x is the fiction-concept, then x is the empty set.*

I support Theorem 2 by saying the concept cannot be understood otherwise.

Continuing, I suggest that we place the question, *are structures in the mind-independent-world?* into the domain of **isp** for the time being. The reason for this is strictly Bungean: *if structures in my head are cognitive, how can they be made of the same stuff the universe is made of?* One simple solution is the universe is made of mind. Simple, but definitely just as puzzling; Bunge points out, if the universe is made of mind then it is fully knowable. This leads to unresolved questions that are fundamental to quantum mechanics.

Another option is that the universe is understood in structures i.e. linguistic and symbolic structures, which rely to a certain extent upon **isforms**. The **isf** understanding is different from the **isf** being. But, this should not surprise us if we assume that all things exist in different ways.

16. Representation As. To Elgin and Goodman, as we have already seen, representations of y depend on denotation whereas y-representations depend on genre. In other words the no-target problem resolves by assuming y-representations (or y-models) belong to genre or kind.

Elgin forms a corollary to the notion of representation: She states that on occasion, “x can represent y as z”—e.g. a caricature of “Winston Churchill as a bulldog”.⁹⁰ She further explains, this notion of representation-as is central to how models function for scientists. Here is why:

Elgin points out that representation-of (as opposed to representation-as) can be accomplished by simple declaration: let x represent y or for our specific purposes, let a

⁹⁰ Elgin, C. Z. (2010) “Telling Instances”, p. 3.

model represent a target. Homo sapiens do this regularly and have been for a fairly long time, I suspect. This pen which is before me can represent a rocket, a laser beam, Macbeth's dagger, a position relative to my tea cup and this table now represents a hockey rink. The tie to representation-as requires another element. The only way to understand the concept of representation-as is to invoke what I will call the shared property problem. This might alert realists.

Elgin also notes that 'resemblance' or 'similarity' are valuable notions but they do not solve our problems about what is involved in understanding i.e. representing. "Representation is an asymmetrical relation; similarity is symmetrical. Representation is irreflexive; similarity is reflexive [...] —via stipulation [...] pretty much anything can represent pretty much anything else".⁹¹

Elgin also notes, the problem derives from the notion of similarity itself. She further argues that there is always something about any two things that is similar⁹². She points out this is the "insight of nominalism".⁹³ We can note that this implies categories can be drawn in potentially infinitely many directions creating infinite possible sets. Are is-forms simply models in some sense?

If we abandon similarity for the moment we notice a curiosity. We can represent anything as something else without representing it as itself. All that is required is that the symbol that names it denotes the referent as something other than itself. Churchill can be represented as a bulldog by either having some similarities with Churchill or by having nearly none other than those which all things could share – existence for example. One can

⁹¹ Elgin, C. Z. (2010) "Telling Instances", p. 4.

⁹² See Goodman (1976); Teller (2001); Giere (2004), Frigg (2010) – Giere's emphasis is on agency – Frigg points out that there is no property that a model has that makes it intrinsically representative of a target.

⁹³ Elgin, C. Z. (2010) "Telling Instances", p. 4.

therefore point to a bulldog whose real name is, say, *Spike* and exclaim, *Look it's Churchill!* —or name a representation of the same bulldog *Churchill*. In the first case, the name *Churchill* does not denote the dog – since, the dog's real name is *Spike*. But in the second case Elgin tells us, (the representation) the name *Churchill* is fixed to the image in the same way that the name *Spike* is fixed to the dog. The caption or title, Elgin claims “fixes the reference”.⁹⁴

17. When Can Reference Be Fixed? Elgin is implying she is “externalist” regarding reference and meaning, in a similar way to Hilary Putnam's twin Earth thought experiments⁹⁵ and Kripke's *Naming and Necessity*.⁹⁶ However, I have misgivings about what to make of the notion that references can be fixed in natural language.⁹⁷ Here's why: *that mad dog* can be used to denote *Churchill* or *Spike* or a *wrestler* and just about any name is as usable as any other. We have no criteria for the naming procedure in natural language. There is simply no real or fixed connection between word (sound or prompt) and the referent.⁹⁸ This is why:

Let's assume for the sake of argument that there are no angels. I do not believe in angels. Now, imagine an angel-picture with the caption *Churchill*. Following Elgin or Goodman, we select the genre angel-picture and attach the name *Churchill* and the viewer interprets it as viewers do—possibly as:

A) *Churchill was an angel.*

⁹⁴ *ibid.*, p. 5.

⁹⁵ Putnam, H. (1975) “The meaning of ‘meaning’”, p. 215-271.

⁹⁶ Kripke, S. (1972) *Naming and Necessity*.

⁹⁷ These misgivings derive from Chomsky's convincing critiques of Putnam and Kripke.

⁹⁸ There are some conceptual restrictions perhaps.

Or sarcastically as:

B) *Churchill was no Angel.*

The device (p-representation) does neatly avoid the no target problem. Nonetheless, the above is also an example of why natural language cannot be regimented. Name **A** is just as usable as name **B**. This quality, often referred to as ‘open texture’ in linguistics is what allows Homo sapiens to be creative creatures when using natural language. Regimentation may simply not be a desideratum where natural language is concerned.⁹⁹

Scientific languages, on the other hand are *regimented* based primarily on accomplishment. Natural language has too many uses that do not coincide with any specific kind of accomplishment. But, reference, it seems, cannot be fixed, in natural language. In the sciences regimentation follows the general inter-subjective rules of what constitutes the parameters of a scientific object. This puzzle seems to have implications for any useful link drawn between scientific representations and artistic representations. H₂O would be rather useless to chemists if it could be used to refer to Churchill or a dog. This discussion will become useful for the word ‘fiction’. While the languages are very different they are structured by our concept of *fiction*. There is, I hope, an a priori and internalist perspective to the notion of *fiction*. If not, I have backed myself into a corner. Objectivity is regained regarding internal concepts, if at all, in coherence alone.

The notion of a shared property is at the heart of our present series of observations. We cannot just assume that scientific method applies to natural language. In natural language, the nominalist argument seems fair. I could call my dog H₂O. But, there are no facets connecting the scientific concept of H₂O with my dog. If we consider my metaphor of a key, the point might be clarified.

⁹⁹ Frege was aware of this, pace the externalist’s interpretation of “Sense and Reference”.

As the key slides into the lock, the grooves on the blade of the key align with the wards in the keyway allowing or denying entry to the cylinder. Then a series of pointed teeth and notches on the blade called bittings allow pins or wafers to move up and down until they align with the shear line of the inner and outer cylinder, allowing the cylinder or cam to rotate freely inside the lock, which opens the lock.¹⁰⁰

The facets of any theory might nonetheless be like the bittings of the key; ordered in a particular way. Understanding is (metaphorically) like opening a lock.

I will leave this puzzle unresolved for now and hope to resolve it later. I would like only to suggest here that there is a fundamental difference between reference in the domain of science and reference in the domain of natural language. The sciences use a very specialized approach to language and symbol regimentation. Whether or not this aspect of reference bears upon our initial assumptions, hypotheses and theses, remains to be argued. The fact that we understand each other at all borders on the miraculous. The implication is that understanding must rely on another form of structure i.e. pre-regimented structure. In his regard, we have some kind of knowledge or know-how. But, it is simpler to call whatever it is, linguistic capacity.

18. Returning to Representation-as and Elgin. Nonetheless, there are many examples of representation-as in the sciences. Traffic is sometimes represented as a fluid. “A spring is represented as a harmonic oscillator”.¹⁰¹ We can further represent a system which is damped by friction, for example, with a non-damped system (perpetual motion). As with the angel-picture of Churchill, the goal is to understand how the models, representations or images relate to other phenomena.

¹⁰⁰ Commons, (no date) “Key” *Wikipedia*, [http://en.wikipedia.org/wiki/Key_\(lock\)](http://en.wikipedia.org/wiki/Key_(lock)) consulted on 2011/10/14.

¹⁰¹ Elgin, C. Z. “Telling Instances”, p. 5.

We can see again how this might bother some philosophers. We can model a damped system with a fictional non-damped system. Anti-fictionalists counter that the non-damped system is not a model of the damped system but rather it is a model of itself. Some anti-fictionalists would recommend scientists avoid using models altogether. Elgin counters “if truth is mandatory, much of our best science turns out to be epistemologically unacceptable and perhaps intellectually dishonest”.¹⁰² Note that my position is not anti-fictionalist. High degrees of fiction found in fictions (the genre) are often fun. In effect the facetist irrealist claims that every narrative is partially fictional (the genre), i.e. fictional by degree. Objectivity is rebuilt for the fictionalist irrealist (Elgin and Goodman) by invoking the notion of degree at the end of the project. As we shall see, versions are created equal, but some are more equal than others. Wishing to be fully anti-fictionalist is the same as wishing to be God. I propose, therefore, another **isp**: God.

I can further clarify this series of observations with an example of an extreme case. Imagine a final stage model (i.e. prototype) of a Ford Focus e.g. one which will be crash-tested and the other, a Ford Focus that comes off the assembly line. Here we have a (final stage) model and a target, both of which are extremely similar. (The problem of similarity will be handled later)

- 1) The only apparatus involved in distinguishing one-as-model and the other-as-actual is stipulation. The cars could easily be swapped at the last minute.
- 2) Something about the logic of how we speak of such things suggests that only the model represents the target and not the other way around.¹⁰³

Following Elgin, the test car is a model of the target, i.e. the design of the fleet of cars is instantiated in the two actual models. Now, if I name the test car *Churchill* one may wonder what I am up to. Why name a test car *Churchill*? The character of this case

¹⁰²Elgin, C. Z., “True Enough” p. 114.

¹⁰³ Of course, any *model* on the street represents the design of the Ford Focus.

hopefully shows how subtle this activity of representation-as really is. Why naming a picture of a bulldog *Churchill* works while naming a Ford crash test model *Churchill* leaves us wondering, is that the activity of representation-as is usually an activity that is supposed to contribute to the understanding.¹⁰⁴ ¹⁰⁵ When it fails to make us understand we begin to wonder why. Following my misgivings about linguistic externalism above – we sometimes do this for the heck of it. For example, *Snoopy* is also the only surviving flown lunar module from the Apollo 10 mission. There are an infinite number of possible uses for the sound or word *Snoopy*. One could say: *Jones is so “snoopy”* meaning he is always being *nosy*.

We may note that scientists continue to use natural language despite their involvement in regimented symbol systems. It is not at first obvious whether calling the lunar module *Snoopy* is part of natural linguistic reference or of regimented linguistic reference? It was however, very clear at NASA. The same argument holds for the crash test vehicle *Churchill*.

I am going to suggest that we are moving toward what I will call the problem of Linguistic Holism. The story of Apollo 10 cannot be divorced from the problem of fiction. It is not ‘literally true’ that the lunar module is *Snoopy*. While, it may have made no difference to the program which name was given to the lunar module, what counts is that the naming procedure was fully regimented. Linguistic holism might make us wonder if we

¹⁰⁴ The reader may notice that there is a “locality of concept” involved in distinguishing the two examples. I will cover this in Chapter 3.

¹⁰⁵ There are interesting fMRI studies being done on how the brain moves the failure to understand language from a “get X” region (the Broca’s Area) to the more general parts of the brain that “have to figure out how X is going to make sense”—it seems arguable that this applies for mental modelling also e.g. See http://thebrain.mcgill.ca/flash/d/d_10/d_10_cr/d_10_cr_lan/d_10_cr_lan.html

can distinguish fictions from facets in the language itself. In other words, a fiction is a fiction.

Let's reconsider *Snoopy*. Some have argued that there must be some features which are exemplified in every instance in which one thinks *that's Snoopy* when looking at a snoopy-picture. The internalist however can counter as follows: Thinking *that's Linus* when looking at a snoopy-picture may be of little use. We are free to use our versions of language in any way we wish and it is generally preferable to try to use words as others do. Nevertheless, as noted above, we can use the expression *that's Snoopy* while looking at the Apollo 10 lunar module as well as for *the pigeon in the back yard*. What then are the criteria of *regimentation*? When and why are members of a community on the same page? Are we saying that *regimentation* is by degree, beginning with natural language use at the less regimented end and moving toward the sciences? (I assume there is a natural form of regimentation involved in natural language – i.e. possibly the innate elements which make understanding possible).

Linguistic holism fails as a counter-argument to facetism because 1) it fails to encompass the notion of faceted by degree and 2) it forces us to be rigid about an entire text. What would we make of a poem which has one stanza that is factual and a second that is fictional (the genre)? We become unable to specify the genre. It is simply better to recognize that one stanza is more faceted than the other. This allows us to further recognize that one stanza is fictional (the genre) and the other is biographical or documentary-based and preserves the notion of *fiction*.

Goodman (1976) and Elgin (1988) distinguish between languages (I prefer language use) along the following lines. Languages are “syntactically or semantically dense” by

degree. Both Elgin and Goodman tackle *regimentation* through the notion of density and its opposition “repleteness”.¹⁰⁶

If I were to scan and then print a version of an original Schulz snoopy-picture, the two images would not be identical, however, they would share many features. And again the print would represent the original, but not the other way around.¹⁰⁷

The general view that Elgin and Goodman share is that while we can distinguish between symbol systems along lines like analog, digital, density, repleteness, autographic, allographic, disjointed, attenuated, these symbol systems are all involved, to a greater or lesser degree, in contributing to understanding. I admit that there are times when I read the works of Elgin and Goodman, specifically when they concentrate on genre and semantic and syntactic density that their irrealism and mine seem identical. At other times I think they have all the features just not in the proper order to be considered faceted. I have the same impression with Bunge. The notion of connection is there, however, in both views the problem of misrepresenting the concept of fiction is apparent. On the other hand, I may be completely off the mark with most of this. But, in areas in which it misses I suggest, it is simply un-faceted.

19. Arguments from Understanding. Facetism is also compatible with our internalist claim that science regiments language for a specific purpose in the mind of the scientist while natural language is for the most part unregimented.

¹⁰⁶ Goodman, N. (1976) *Languages of Art*, p. 226–227. And also in Elgin, C. Z., Goodman, N. (1988) *Reconceptions in Philosophy*, Indianapolis, Hackett, Chap. 7.

¹⁰⁷ Goodman has an interesting approach to all this in the analog and digital distinction and the autographic and allographic distinction. I will not detail it here.

I will use the following strategy of argumentation as I proceed. I will call it and similar arguments: arguments from understanding. I am avoiding the expression transcendental arguments because it may only raise confusion.

Kant, it seems, attached the categories to the “possibility of experience”. Simply defined, an argument from understanding shows that fundamental categories (‘categories’ preferred by Aristotelians, Kantians, Lockeans¹⁰⁸ and Peirceans) or primitive (atomic) concepts (‘concepts’ preferred by Cartesian Rationalists and modern Chomskyans) create the possibility of understanding in the way that Homo sapiens understand. So for example, to understand the sentence: *I was there yesterday and hope to return tomorrow* requires that we have among other capacities, the ability to understand past versus future as well as the ability to parse the sentence as is generally expected in English. The unintelligible statement: *I was there tomorrow and hope to return yesterday* and others like it, will be covered in Chapter 3 in the section influenced by Chomsky, James McGilvray and Paul Pietroski dealing with “negative facts”, concepts and Universal Grammar.

We note that the statement: *I was there tomorrow and hope to return yesterday* has a non-representational quality linking it to artistic abstraction i.e. it is rather poetic.

One could argue that arguments from understanding cannot generate well founded beliefs about the world *out there*. Nothing about the mind independent world need be a reflection of the concepts of understanding. This same strategy has been used by skeptics against Kantian *transcendental arguments*. This is a significant problem because common sense must not direct science. These are two different domains.

As I mentioned above in a footnote, this is not a problem to dismiss lightly, because transcendental arguments suffer from the same problem that the Descartes/Anselm

¹⁰⁸ The primary/secondary qualities distinction is categorical. Bunge is a major fan of Locke’s category and so am I.

ontological arguments for the existence of God do. The mind independent world need not follow the mind's concepts. In what way is the so-called Kantian Copernican revolution different from the proof of God based upon the category or concept 'God'?

Imagine a chess board of black and white squares—8 squares vertical and 8 squares horizontal. The imagined chessboard is an abstract model (*Am*). There is no target to speak of other than the abstract notion of a chessboard. So we can suggest this is an abstract model of an abstract target (*AmAt*) although one can also imagine one's real chessboard and derive an abstract model and concrete target (*AmCt*) example if one prefers. We have a chessboard model in our heads (or if one prefers, a mental image) with 8 squares on all 4 sides equaling (I prefer modeling over equaling) 64 squares in total. I will denote this by *model 8888*. Now, let's try to construct an abstract model with 8 squares on side **A**; 9 squares on side **B**; 10 squares on side **C**, and 11 squares on side **D**. The abstract model is denotable by simple description. We can even name the *model 891011*. In effect the syntactical instructions are clear. However, we cannot construct *891011* mentally, nor can we construct it physically *out there*.¹⁰⁹ Another example is a *black/white square*. One thing that falls out of this thought experiment is that the syntactical description carries information the concrete model cannot feature. This is a strange negative fact. Narrative domains are distinct in how they handle fictionally disorganized elements. *891011* is itself a partially faceted narrative (surely '8', '9', '10' and '11' exist in some sense) of a fully fictional picture i.e. it successfully describes a non-entity that cannot be imaged or built mentally or physically without cheating. The same applies for the *black/white square*. The mental image is ordinarily a partially concretized entity. The denotation *AmAt* of an ideal non-target is therefore viable e.g. *891011*. The denotation of the concrete non-target *AmCt* is not viable e.g. *the impossible to represent entity denoted by 891011*. I submit this

¹⁰⁹ Escher drawings are partially modelled impossibilities. That is what makes them so playfully interesting.

resolves the denotation no-target problem. It is a self referential paradox. On the one hand it denotes nothing, on the other it denotes impossibility. There is an **isf** of impossibility. Is the **isf** of nothing like the truth of a lie or a black/white square? They cannot be understood.

Continuing, there are models which can be built, models which cannot be built and models which can only partially be built. The argument from understanding allows us to distinguish between models we can create concretely and models we cannot create concretely. The attempt to build a concrete model of the ‘object’ denoted by *891011* is what I have called above a cognitive virus. We are equipped with the ability to stop trying to construct it when we recognize it is flawed. There are similarities here with self referential paradoxes. They still must be regarded as partial fictions. The features are not fully disordered. They can be likened to *891011*.

Elgin supplies many similar examples using perspective— e.g. foreground objects cannot be imagined simultaneously with obscured background objects.

Wittgenstein’s “duck-rabbit” is another example. We cannot see the duck and the rabbit at the same time. We can learn something from the way the mind works from that model. Now, there are no duck-rabbits to my knowledge. The duck rabbit picture is a **CmAt**. I imagine we could possibly create some half duck and half rabbit in an *Island of Doctor Moreau* inspired experiment. Here we could generate a more scientific **CmAt** beforehand. I denoted it above. There are probably genetic models already that are this kind of thing. Notice, however that Wittgenstein’s duck-rabbit is a different genre of representation from the scientific representation generated from the genetic crossfade.¹¹⁰ On the island of Doctor Moreau we would have a real dubbit in the way that we have a

¹¹⁰ Parfit and Shoemaker on Identity were very troubled by this. In recent years however, Parfit has modified his views on identity, moving toward neo-Kantian schemas.

mule rather than horse/donkey.¹¹¹ Wittgenstein's duck-rabbit is simultaneously a picture of a duck and a picture of a rabbit to anyone who can read the picture. The realized dubbit is neither fully duck nor fully rabbit *out there* and is not cognitively ambiguous.

I suggest, therefore, that arguments from understanding are deeply attached to the world *out there* and in a myriad of complex ways. Without them, we may conclude with Elgin that "all bets are off". We must follow certain rules when we build something real. Certain of the same rules are involved in what we can mentally model. If we return to the categories for a moment, we observe that without the distinction between possible and impossible, there simply is no way to understand the difference between the examples of the type mentioned above.

Philosophical positions that are at the extremes are usually founded on the collapse of some categorical distinction, e.g, internal versus external. We can see one workable strategy against these extreme positions is to be found in arguments from understanding.

Also of note is that *AmAt's* which are mathematical structures do not need to be constructible as representations in 3-dimensions to be of interest. Hilbert spaces are the perfect example. We can use *AmAt's* for mapping n-functions or n-relations. Partial differential equations and M-dimensional systems are used in various fields like engineering. Just because a model cannot be concretized does not imply it cannot be used. Nor, if I am right, does it make it fictional (the concept).

These examples and others like them will be part of what I will call (following Chomsky) negative facts which play a major role in how we use languages, symbol systems and our *mental model making factories*. Language developed the way it did because of constraints.

¹¹¹ I do not mean the naming procedure.

There is a final point to be made. There is much interesting work being carried on in philosophy of science these days. The examples I offered help to explain why we learn from facets. Facets express concrete features thus forming connections. Emphasis in philosophy of science on manipulation, prediction, formalizations and connected explanations in good natural science are attached to the subtle aspects of facets.

20. Exemplification of Features. Connected to the questions surrounding representation is the notion of exemplification explored by Goodman¹¹² and Elgin.¹¹³ There are two kinds of reference according to Goodman: denotation and exemplification. Exemplification we are told “runs in the opposite direction” to denotation.¹¹⁴

Given the nominalist idea that anything can be considered similar in some way to anything else, we can consider the interesting example of the paint swatch.

What Elgin notes however, is that exemplification requires both instantiation and reference. Exemplification cannot be a case of stipulation in the way that representation is. The paint swatch must instantiate, even if only by degree, the property or properties of interest. The swatch may instantiate many other properties as well—shape, position, printing process, texture. And although some swatches are actually paint, others are mixtures of very close combinations of pigment in other binders adjusted and regimented to arrive very close to the colour paint that will be used; the instantiation of a specific property, the activity, is interpretive. The function of the paint swatch is to work by exemplification such that the colour property is made manifest.

¹¹² Goodman, N. (1976) *Languages of Art*, p. 45-68.

¹¹³ Elgin, C. Z. (1997) *Between the Absolute and the Arbitrary*, p. 171-183.

¹¹⁴ Goodman, N. (1976) *Languages of Art*, p. 66.

I would note that paint swatches are essentially ‘written’ in a highly regimented and ‘scientific’ system.

Elgin applies her work on exemplification to scientific experimentation. She notes that all “scientific experiments are vehicles of exemplification. [...] They select, highlight, control and manipulate so that their features of interest are brought to the fore”.¹¹⁵ Elgin suggests experiments are “highly artificial” and not “slices of nature” because the natural case is rarely an “exemplary case”. This may bring up more misgivings. The structures we seek and create may only be faintly *out there*. If these features are only ghost-like versions of the structures we look for. Are we not dealing with fictions again?

We are still burdened by the question: Is the structure we seek to describe with the framework we use in the target itself? There are at least two ways to view this question:

- 1) we assume that a structure is a representation i.e. representationalism
- 2) we assume that a structure is not a representation i.e. anti-representationalism

Here is the problem. If we agree that what makes a paint swatch useful is that it exemplifies certain features of the actual paint, are we not pointing to an inherent structure which is part of both?

We do not have to be Platonists to resolve this problem. We simply allow that the same (isomorphic) or very similar abstract structure is instantiated in two places. Unfortunately, what do we make of this notion of partial resemblance (ghost-like versions of our structures)? And, what then do we make of the notion of exemplification? Following Goodman and Elgin: If denotation is the act of designed-pointing; exemplification is the act of defined-searching and structuring.

¹¹⁵ Elgin, C. Z. (2010) “Keeping Things in Perspective” p. 6.

Exemplification is therefore by degree and ultimately dependent upon our definitions. Unless, I am mistaken Elgin/Goodman fictionalist irrealism is distinct from mine on one point. They (and most philosophers including Bunge and Yablo) treat ‘fiction’ as though it is a noun rather than as part of a descriptive noun or as an adjective. Recall that nothing *talls* and similarly nothing *fictions*. Narratives are simply more or less faceted and more or less fictional. This implies that speaking of say, numbers as fictions, is simply using language incorrectly. Numbers just are, in the special way that things like numbers are. We need them in much the same way as we need hammers and clouds.

21. Fiction and Metaphor. Elgin compares the arts and sciences in order to elucidate her presupposition that from fictions we glean understandings. I will attempt to relate it to the above themes and to our initial queries. She provides as example, Jane Austen’s *Pride and Prejudice*. Elgin’s point is that the novel is a kind of thought experiment wherein we may find elements that we can use in our day to day experiences. Any attempt to explain every fact of some real story of three or four families in a country village would likely never lead to any insights. We would simply be overwhelmed with details in the way in which our own lives overflow with information. Elgin tells us we learn things from these fictional characters. That they are fictional does not matter. Again, I would counter-argue that the characters are not fully fictional and neither is *Pride and Prejudice*. As I noted above, there is an **isf** the genre fiction and an **isf** of the concept fiction. They are not the same **isf** and this generates our **isp**.

The same is true for the paint swatch created in pigmented ink rather than actual paint. The aspects of interest are brought to the fore sufficiently such that we can use the swatch to pick a colour. We do not immediately believe the swatch is a lie of any sort because it was not made with the same binding agent (vehicles) i.e. polyvinyl acrylic versus nitrocellulose lacquer. We can separate the fiction from the lie. We can see that Elgin is offering an argument from understanding. We cannot simply collapse the concept of fiction

into the concept of lying. She would contend that anti-fictionalists make a mistake by insisting that no understanding can be derived from fiction. On the other hand, would we bother modeling frictionless planes if we could understand every real plane perfectly? Again, I submit, no understanding can be derived from fiction because pure fiction is impossible to understand. It is facets we seek in arts and science and other domains.

The same kind of argument applies to scientific models. The Ideal gas model is the ideal example. There simply is no ideal gas. What then is the connection between a model that denotes nothing real and our scientific activity? One answer is that models in science may exemplify abstract mathematical relations or structures. According to Elgin, that they might be abstract and fictional does not imply they are less informative. This nearly makes sense. I would express the sentence as follows: *that they might be abstract and partially fictional does not imply they are less informative.*

Roman Frigg¹¹⁶ makes some interesting arguments warning us against reducing models to abstract structures. One obvious reason: models are sometimes easier to ‘see’ than are complex mathematical structures. If Frigg is right models are not structures. I would argue models represent a mixture of faceted elements and disordered elements ordered into structures. Models are representations of facets. Models represent structures.

In all cases regarding the so-called fictions described above, Elgin argues, they function in that they imply we need to take certain exemplified features seriously. We can compare with our “everyday situation”—we can compare with the real phenomena or data. We can obtain epistemic access. The behavior of the real may be too complex to model but the simplified version helps. For example, there are many gasses *out there* under many differing conditions but, by creating a simplified abstract model we manage to access

¹¹⁶ Frigg, R. (2010) “Fictions and Scientific Representation”. p.297-308.

relations and behavior which would otherwise overwhelm us. We use models to represent targets by exhibiting their ordered features of interest and also for contrasting divergences.

Elgin suggests, we can even exemplify a feature metaphorically. These features of interest can be concrete or highly abstract. In the case of caricature, we can use a particular representation to bring out something like “nosiness”. We may exaggerate the size of the nose in the portrait for our purposes. The feature that we may wish to exemplify may not in fact be nose-size at all. Here the notion of structure may only apply in an abstract sense.

Elgin deals with the role of metaphor in contributing to understanding: She argues against Donald Davidson’s view in the following:

Davidson contends [that] metaphors resist regimentation. He [...] concludes that terms used metaphorically have no meaning beyond their literal meaning. [...] ‘Irate aardvark’ denotes nothing but literally irate aardvarks. [...] Why one would make such an allegation and what others make of it should be left to psychology to explain [...] Again only science survives.¹¹⁷

“Metaphorical characterizations, Goodman urges, are no less determinate and no less informative than literal characterizations”.¹¹⁸ In another passage Elgin offers justification for the meaningfulness of the notion of metaphor i.e. metaphorical exemplification.

To call the Watergate conspiracy a cancer on the presidency is to import into the political realm a category that literally captures a fatal disease. The metaphor captures the conspiracy’s insidious spread and grave implications.¹¹⁹

Elgin goes further. She contends that “actual science, like other disciplines, is riddled with metaphors.”¹²⁰

¹¹⁷ Elgin, C. Z. (1997) *Between the Absolute and the Arbitrary*, p. 9.

¹¹⁸ *ibid.*, p. 12.

¹¹⁹ *ibid.*, p. 12.

Metaphor is a device for drawing new lines. It reorganizes the items in a realm, grouping together things more familiar categories keep apart, distinguishing among things familiar categories group together. But it does not do so arbitrarily. Rather, in metaphor we import a scheme that has proven effective elsewhere and apply it to reorder a new domain. Metaphor then enables us to recognize membership in normally neglected classes.¹²¹

Examples in cognitive science include elasticity, rigidity and plasticity. If Chomsky is right, syntax is hardwired. Experience has no effect on deep syntactic structure. Plasticity enters into the explanation of what happens psychologically and neurologically when we learn our first language. The changes we undergo are profound and enduring. Some neural pathways are strengthened; others are permanently extinguished. Elasticity might account for the sort of psychological changes we undergo when, for example, we memorize irregular verbs for an upcoming exam. Such learning causes a change of mind, but not a particularly deep or lasting one. Even though we call both the acquisition of a first language and an American student's rote memorization of the French verb "aller" instances of language learning, they seem quite different. The metaphor enables us to express the difference. Literal, entrenched taxonomies tend to rigidify thought, guiding it along well-worn channels toward clearly demarcated goals. Metaphor reconfigures the domain, drawing boundaries that cut across familiar distinctions, disclosing features of the terrain that hitherto eluded our gaze.¹²²

The metaphor highlights affinities within and across domains. It likens its referent both to other members of the metaphorical extension and to their literal counterparts.[...] Once we recognize the constellation of factors a metaphor exemplifies, we can investigate whether the conception that underlies them is sound. Is there a sharp divide between hardwired, plastic, and elastic traits? Or can some things be, for example, either plastic or elastic? How resistant to reversal does a trait have to be to be considered plastic? Does the mind's plasticity diminish with age? And so forth. The metaphors reveal new avenues of inquiry worthy of exploration".¹²³

¹²⁰ *ibid.*, p. 11

¹²¹ Elgin, C. Z. (2002b), *Creation as Reconfiguration: Art in the Advancement of Understanding*. p.15.

¹²² Elgin, C. Z. (1997) *Op. Cit.* p. 15.

¹²³ *ibid.*, p. 16-17.

I contend that these are passages where Elgin is at her best. Here, she is preserving both Thesis 1 and Thesis 2. We have not yet determined which is best. From metaphors we glean understanding in art and science. What is the difference? Metaphors are not a ‘genre’ they are an active part of speech. We do not say we watched a metaphor but we do say we watched a fiction. Metaphors are well formed. They express so much in all the subtle ways Elgin suggests. The notion of literal truth only clouds our picture¹²⁴. Metaphors are not fictions. Now we have an **isf** metaphors versus **isf** literal propositions. Metaphors are understandable... pure fictions are simply the expression of pure misunderstandings. There is a possible set of comprehensible metaphors. Pure fiction is by definition incomprehensible.

Axiom 1: x is a metaphor *implies that* x is comprehensible and therefore not fictional (the concept).

Axiom 2: If x *or* x' is *fully fictional* (the concept) in a math-language or in natural language it implies that x *or* x' is incomprehensible.

Still, nothing is certain regarding whether some aspect is a feature of the target or not. For that we need to consider notions like “fit” and “better versions”. Math-languages need not respond to anything beyond the language for confirmation.

¹²⁴ Too many categories employed in one discourse cloud our ability to think clearly. Truth may have its own serious problems. My suggestion is to avoid the word until somebody manages to explain what they mean by it. At present it is nothing more than a troublesome cross-categorization of internal and external. More on this later.

Chapter 2

22. A Review. We need to put a few parts together before we continue. Suárez explains:

Fictions are, for Vaihinger, accounts of the world and its systems that not only are plainly and openly false, but knowingly so, yet remain indispensable in theorizing—in science and elsewhere.¹²⁵

Another strategy for understanding the problem with this view is that it under-defines the notion of ‘fiction’. If we are to follow the concepts and categories to their bitter ends and we must then we are going to have to do this so that none are dropped. What I am aiming at here is that our common sense notion of referring to specific works with the word ‘fictions’ and to others as ‘biographies’ is a stylistic use of the term, not a conceptual one. Fiction is a genre. Biography is another genre. There are no biographies from the standpoint of *isf* concepts but only from the standpoint of the *isf* genre. A biography in the conceptual sense would be the entire story of the world line of an individual. God alone is reading your biography accept that your perfect biography is nothing other than you.

This is why Goodman spends time on the genre of realism in painting and other arts. The powerful quality of *Languages of Art* is that it is a book about the semantic and syntactic aspects of understanding in general.

Categories do not generate being they generate understandings or ways of being. They are what Vaihinger suggests, we use categories to treat objects “as if” they existed—they are what Kant explained: the possibility of understanding.

Perhaps I can tie this up by recalling my hinge argument:

To deal with statements of the form “Jimi was on fire” we need to do one of the following 3 options:

¹²⁵ Suárez, M. (2009) “Scientific Fictions as Rules of Inference”, p. 158.

- 1) Treat the proposition as though it must only express truth i.e. the way that positivists would i.e. make meaning depend upon being.
- 2) Treat the proposition as either literally true or metaphorically true i.e. make meaning depend upon truth.
- 3) Treat the proposition as though it is categorically dense (conceptually structured) and meaningful under certain interpretations but not others i.e. make the meaning depend upon the sentence structure.

The problem with 1 is it generates an unwarranted rigidity – there are far too many subtleties in our natural language. This is the kind of move made in philosophy of language by the positivists and Davidson, Putnam, Quine, Lewis and exactly what troubled Wittgenstein. We can call this approach to meaning epistemologism re: meaning.

The problem with 2 is it generates an enormous number of kinds of truth; metaphorical; literal; religious; scientific, yours, mine, partial, fictional. We can call this view relativism re: meaning.

Finally, 3 makes the meaning of the proposition depend not on forms of being – real, less real, fictional, semi-fictional, nor on forms of truth but on categories i.e. is-forms or is-functions and the rules of symbolic structures. (Sometimes innate and sometimes regimented).

This is not a coherence theory of truth. However, it is a coherence theory for sentence structure and therefore a coherence theory of understanding. Well, what is understanding if not coherence?

There is a relationship to a particular reading of Wittgenstein here which I accept. In both 1 and 2 language has “gone on holiday”. Where Wittgenstein goes wrong, however, is that as a behaviorist, he places the notion of meaning in community. But, there are two ways (at least) to approach this:

- 1) The behaviorist reading which suggests that we learn our natural languages from our parents and communities.

2) The nativist reading which suggests we learn regimented languages in communities by agreement but that we have the basis of our natural language when we are born in an innate capacity. This does not imply that we do not require specific inputs along the way. Nor does it imply that we come with concepts which we understand as hanging together in exactly the same way. Socrates, we may recall, guides Meno's slave boy through various steps. Nonetheless, it would seem that the concepts entail how they are to be understood. By now, we are beginning to see the lines of the political and practical implications. I will cover this in the final section which deals briefly with politics.

The notion of "form of life" has two more possible readings. It reflects the type of life-form we are and the notion of agreement to certain aspects of regimentation. We are born with a structuring capacity. We do not learn this from anyone. It is built in the way our physical architecture is built in. So the intuition that math objects exist forever may derive from the fact that they only exist insofar as they can be understood and that strictly speaking is the way the world must be.

This drives a wedge between the use of languages which are scientific and the use of non-scientific languages. Symbol systems are separated by their inherent structures. To understand the symbol system is to play by its rules. Wilfred Sellars is well known "for his distinction between the "manifest image" and the "scientific image" of the world".¹²⁶ I am advocating something very similar. Languages and symbol systems are divergent.

If we look at the different forms of language (as Goodman did in *Languages of Art*) we discover that they need to be understood in different ways. Regimented languages can immediately be distinguished from natural language, which are regimented through some deep grammatical structure. This is the point Wittgenstein missed and which Chomsky introduced. The poverty of stimulus argument and the fact that children acquire a language as quickly as they do clearly imply some complex language acquisition device.

¹²⁶deVries, W. (2011) "Wilfrid Sellars" *The Stanford Encyclopedia of Philosophy* Zalta E. N. <http://plato.stanford.edu/entries/sellars/> consulted on 1/31/2011.

So, for example, that $2+2=4$ is simply found in the understanding of the concepts. The structure of the language determines its meaning and truth value. There is no question of 'being' and therefore there is no question of truth based upon being. Numbers exist as symbols representing the interplay of concepts in a specific symbol system.

Other languages are different. Scientific languages often require that the symbols be measured against the world. This is done through manipulation, prediction, coherence with other good science and explanation. I submit therefore that a fiction (the concept) in science is the one that does not succeed in any of these ways. This limits the region of discourse in the following way. A facet-free model is a pure fiction. The aspects of the model which are facets are not fictional even if they only provided a ghostly glimpse at structure. Facets are simply the bits that fit.

In order to preserve the categorical distinction between fiction and non-fiction we need to make this move. While the entire story of the plum-pudding-model-of-the-atom is fictional, its value is found in the non-fictional elements. If this were not the case we could not immediately replace the plum-pudding part of the model with a panetone part. The panetone-model-of-the-atom is probably just the same model.

To say that fictions (the genre) are used in science is to say that there are aspects of the model which may be heuristic but that are fundamentally irrelevant i.e. replaceable by other elements. Fictions (the concept) are not used for gleaning understandings but rather facets are. I therefore reject assumption 1 with respect to the sciences.

I however, also reject assumption 1 for the arts and all other domains. If the concept fiction/non-fiction is to hold in natural language as it must, we should also insist that we learn from facets not from fictions. The elements that properly describe the real in any fiction are the fodder for the gleaning of understandings.

All narratives are a mixture of fictional elements and faceted elements. They are faceted by degree.

Recent studies in neurology and psychology,¹²⁷ which deal with dreaming, may be useful in our consideration of fiction versus non-fiction. It seems that both REM and non-REM dreaming allow us to experiment with scenarios that can at times be contrary to our evidence and contrary to our beliefs.¹²⁸ It seems, we learn *by simulation* while we sleep. Evidence suggests that the ability to perform specific tasks increases after sleep when participants dream about the tasks they had been assigned before getting into bed. Similar studies were conducted on animals with highly congruous results. We can theorize about practice; even while we sleep. The point is that the dream cannot be characterized as fictional (the concept). For example, if we dream of skiing, there are non-fictional aspects to the dream. The features of the dream that are facets are what we learn from. There are skies in my dream and snow and the sun. A dream without any facets simply does not exist, for it could express nothing.¹²⁹ A dream with very few facets drifts toward incomprehensibility but is still worth having. Dreaming is fundamental to rest.

Even, a priori work is a form of evidence. We have the mental capacity to work “online” and “offline” (one contemporary way¹³⁰ of discussing a priori work is to call it offline, or what Galen Strawson refers to as “the work I do while sitting on my couch”) e.g. wondering what might have happened if Napoleon had had nuclear weapons, or if Stephen Harper continues his path toward deregulation re: big business etc. Thinking the narrative has “possible truth conditions” is evidence that our language has “taken a holiday”.

By affirming assumption1, I am in effect preserving the categorical distinction between fictions and non-fictions or facets. Again, I am not however an anti-fictionalist in

¹²⁷ Zadra A., Desjardins, S. Marcotte, E. (sous presse). Evolutionary function of dreams: A test of the threat simulation theory in recurrent dreams.

¹²⁸ I am avoiding “counterfactual”.

¹²⁹ I am not suggesting that the sole function of dreaming is learning.

¹³⁰ Chomsky.

the loose sense of the term. I recommend that everyone enjoy fictions (the genre) even when they are almost empty of facets. i.e. fairly non-faceted. An implication of this is that there are probably no perfectly facet-free-fictions but there are examples which approach this. Abstract art contains real elements: Colours, forms and so on. Goodman notes that no artwork is fully free of reaching beyond itself. But by the same argument there can never be a perfectly faceted way the world is. It must always contain some element of fiction. The element of fiction is the limit of the theory. Hence Irrealism. There is no one way the world is because there can be no one use of categories for everything. The way the world is, *is* simply everything. The way the world is, for us, is to point to a specific language we are using. Every language is cognitive. There is no way the world is for us outside of the cognitive language we represent it with.

23. Fit. Elgin points out that “fit”, like exemplification, is by degree. There are, she claims “perfect fits and loose fits” and representations that “do not fit” their target system at all. Models can be adjusted or tweaked to fit better on occasion.

This brings us to another recurring theme: often models diverge from the target and so are only “approximately true” or “true enough”.¹³¹ That “[a] representation is true enough for some purpose or in some respects but is not true enough in others” should not be a surprise to us. The “accuracy of models” is “limited”.¹³²

We do not need to characterize approximate truth as “not literally true”. Elgin’s cautiousness, when it comes to truth-talk, is nonetheless admirable. But approximation should be construed as faceted, not false or fictional. Scientists regularly add plus and minus conditions to their work. So to say that some value x is close and possibly off by some y is to admit details of experimental procedures and models that cannot properly be described by “felicitous falsehood.”

¹³¹ Elgin, C. Z. (2004) “True Enough”, p. 113-131.

¹³² Elgin, C. Z. (2010) “Keeping Things in Perspective”, p. 11.

24. Resemblance. Elgin unpacks the concept of resemblance in the following way. Often, a model fits a target by exemplifying similar features. She offers an example to show resemblance is insufficient to properly express the complexity of this idea. Increasing resemblance between model and target does not necessarily provide greater understanding. Elgin points to the vast quantity of data that was faxed to NASA before the tragic accident of the space shuttle Challenger which was caused by degradation of a rubber O-ring. The danger was simply and sadly “obscured by a mélange of other data that was included”.¹³³ More data implies greater resemblance and greater detail—not greater understanding. “Data instantiated but did not exemplify”. “The goal [...] is to afford understanding, [...] merely representing the data in relevant respects is not sufficient.

“The representation must make the resemblance manifest”.¹³⁴ Therefore, we should understand Elgin would not have us give up on resemblance entirely. It would seem properties can have the quality that they can be shared. Again, while model and target may share properties, this is not sufficient to glean understanding.

The paradigm, it seems, has begun to shift radically. Fiction, we are told, seems preferable to fact in this case. Avoiding information brings out what counts to us. There are infinite many organizations of information all of which are fictive. What counts to us in this specific case is only one construction. It should be noted also that the construction could have been organized with many other pieces of information.

Elgin has mixed her valuable commitment to the unreal nature of all constructs with the faceted aspects from which we glean understandings. There are many possible structures which allow us to notice the cause of the *Challenger* tragedy. Those which are relevant as cause are implicated and so must be considered something other than fiction. The narrative of the event, like all models, is faceted and it can be told in many ways all

¹³³ Elgin, C. Z. (2010) “Keeping Things in Perspective”, p.11.

¹³⁴ *ibid.*, p. 12.

presumably leading to the rubber O ring. This does not make it more of a *fiction* because there are missing features. It is irrelevancies that ultimately create fiction not facets. Copious amounts of information create fiction through disorganization. It is not information left out which is fiction but facets left out.

25. Objectivity Remade. Need we give up on objectivity? No. According to Elgin the issue surrounds properly understanding the notion of objectivity and distinguishing it from accuracy.

Elgin argues, accuracy can be achieved with a hunch. For example, if on one occasion I throw a dart while blindfolded at a target and the dart hits the bulls-eye, the shot may be deemed accurate but it is hardly the result of skill—at least in my case.

But, Elgin claims rightly, that objectivity is about skills, norms, standards and inter-subjective conventions. We have techniques and methods which have succeeded over the years.

We can also draw a line between artistic representations which rely on interpretation and scientific representations. Very subtle differences are key in one domain in a different manner than they are in the other. The aesthetic world allows for “endless contestability” and is more “tenuous” than are the sciences.

Objectivity and subjectivity belong to a continuum [...] So although scientific models of non-existent entities and fictional portrayals do not accurately mirror anything in the world, they are capable of figuring in an understanding of the world¹³⁵.

This is very close. The notions of “fictional portrayals” and “scientific models of non-existent entities” are close to being properly formed and compared conceptually. They are either fictional (the concept) or they are faceted by degree. The faceted aspects are what we learn from. Ultimately, there are no perfectly fictional portrayals.

¹³⁵ Elgin, C. Z. (2010) *Op. cit.* p. 16

I have argued above that artistic practice on many occasions does not need to be representational at all. It does not even need to contribute to the understanding in any obvious way. This is an aspect of how artistic creativity can be free. In this regard artistic practice sometimes creates objects that are more like flowers and sunsets. We are free to interpret them in the ways we want to. The same is true for aspects of natural language. We are free to play with words. Pace, positivists who blame the worst on poets and metaphysicians, we cherish freedom.

I would add also that here are similar examples in the sciences. Mathematicians regularly work on problems that have no apparent application. Often, the equation becomes useful later on. Brian Cox and Jeff Forshaw¹³⁶ point this out about Maxwell's equations in their book $E=mc^2$. All mathematical equations are fully fictional equations if they are self contradictory. Mathematical equations like everything we do with our brains including perceptions are unreal by degree. Therefore, we define:

Definition 5: For any mathematical sentence A : $A =_{df}$ *fiction (the concept)* $\wedge A$ is incomprehensible.

26. Category Mistakes and Verbal Disputes: We might wish to be slightly revisionist regarding philosophical terminology. Many of us have found ourselves in a disagreement only to recognize that the definitions of our terms determine the nature of that disagreement. In recent years, the expression 'verbal dispute' has been coined to denote this linguistic frustration. One suggested resolution is to supply a new "neutral vocabulary".

Similarly, Frege's craving for an ideal philosophical, scientific and mathematical language exemplifies this way of thinking.¹³⁷ Frege, however, may not have been involved in a normative project regarding language—he was intent on distinguishing science from

¹³⁶ Cox, B. and Forshaw, J. (2009) *Why $E=mc^2$ and why should I care?* p. 22-33.

¹³⁷ Seymour, M. (2005), *L'Institution du langage*, p. 228-43. See 13 characteristics of Frege's Ideal Language.

psychologism.¹³⁸ Nonetheless, the craving to limit our meanings is at least as old as philosophy itself. Even the Pre-Socratics and Plato were obsessed with the meaning of various words commonly taken for granted. At any rate there are arguably several good reasons, say, for naming only one tooth number 17.¹³⁹ There might, nonetheless, be certain pre-scientific advantages to this – science, after all, must have grown out of natural language.

Debates naturally rage on about the possibility of idealizing language with the ramifications of attempting to *clean* our philosophical language thankfully spilling over into the political and ethical.

I do, however, contend that we should stop using the word ‘fiction’ as a noun in philosophy of science, unless we wish to speak loosely about genre.

¹³⁸ *ibid.*, p. 240.

¹³⁹ One of the many characteristics of science is linguistic and/or symbolic regimentation. Regimentation alone is insufficient. How and whether this applies to philosophy is another matter.

Chapter 3

27. Epistemology. I agree with Frege, regarding denotation, with one caveat. Mathematical expressions, to the extent that they are coherent and consistent, have truth indicators, they do not quite denote the truth. What this means is that they supply the instructions for how to go about accepting or rejecting them internally. This is not the case for most other kinds of sentences and symbol systems. Many have their own structural consistencies, which allow them to be meaningful by making us search externally. I would further argue that natural language allows for meaning across the entire range, internal meaning (conceptual consistency), external meaning (factually derived) and levels of disorder and play. All forms are of interest.

Arriving at Elgin's epistemology, we can note the following major points:

- 1) Elgin's virtue epistemology has ties to the Aristotelian notion of the golden mean between extremes —she unpacks many binary concepts or categories (e.g. solid versus fragile, sameness versus difference, lying versus truth-telling, fiction versus non-fiction) and finds the mean. This is an excellent strategy. She maintains

linguistic categories. *I already touched on it in the short discussion of arguments from understanding.*¹⁴⁰

- 2) Elgin argues that *veritism* is too extreme.¹⁴¹ She also states that while we should never “jettison concern for truth” we should recognize that *veritism* would imply the loss of many valuable tools that yield understanding—models, idealizations, curve-smoothing, a fortiori arguments, ceteris paribus claims—are often only true enough and sometimes not true at all. However, what counts is that they work for us in contributing to understanding. Elgin is sympathetic to instrumentalism. *This is very acceptable. From it we can derive irrealism but as I have argued above these are not properly construed as fictions.*
- 3) Elgin argues for “cognitive acceptability” based on the idea that we often accept divergences from truth at the level of idealization that is of interest to us.¹⁴² *I would argue divergence from true statements cannot be tied to the concept of ‘fiction’.*
- 4) “That misunderstanding involves representing things as they are not, does not entail that whenever we represent things as they are not, we misunderstand them”.¹⁴³ *Facetist irrealism is the view that all brain children are misrepresentations by degree. This is nonetheless compatible with understanding.*
- 5) “Felicitous falsehoods” are fictions that contribute to our understanding. I would prefer to say: *All understanding implies missing information. Elements in fictional narratives (the genre) and quasi-faceted models connect with their targets through facets.*
- 6) Elgin in “Skepticism Aside” argues for relevance in epistemology. E.g. there is no need for a doctor to solve the riddles of skepticism before making a diagnosis. Elgin points out the following:
 - a) warrant implies reasons
 - b) reasons are qualitative (better or worse)
 - c) epistemic acceptability is backed by sufficiently good reason

¹⁴⁰ The categories are infinite. Whether there are primitives suggested by Aristotle, Locke, Kant, Pierce is not addressed in this paper. Locke’s primary/secondary quality distinction is a categorical distinction of great significance. It allows to distinguish scientific mind independent constructs from mind dependent constructs.

¹⁴¹ Elgin defines ‘veritism’ as the epistemological stance that science must pursue truth at all costs.

¹⁴² Elgin, C. Z. (2004) “True Enough”, p. 117.

¹⁴³ *ibid.*, p. 118.

I support a version of epistemological internalism (i.e. there are sentences which imply we need to look for truth indicators.)

- 7) We are justified in pushing “skepticism aside”. We can accept that “Descartes demon” may never be fully extinguished however, we naturally “assume” that extreme skeptical scenarios do not obtain and it makes perfect sense to do so. Elgin distinguishes between *belief* (the feeling of having an opinion i.e. defined as a representation) and *acceptance* upon which we are willing to act.

Elgin states, “[i]f a skeptical scenario obtains all bets are off”. This may be too strong as we shall see.

28. Some Preliminary Epistemological Concerns. The following will pertain to issues regarding laws, causality, so-called “occult powers” and action at a distance. Bell’s theorem, the Einstein-Podolsky-Rosen Paradox and the Copenhagen interpretation must leave us wondering if we have a proper understanding of causality. Even experiments since seem to point away from “local realism”. The problem of free will is an **isp**. In my interpretation (rather unqualified I admit) causality is simply a faceted model with some disorganised features. I do not want to support the extravagant implications of this notion, however, I cannot fully deny them.

I define weak scientific realism as the view that we are very justified in believing that the practice of science reveals truths about nature. I would define scientific realism as the certainty that science reveals truths about nature. How one approaches epistemology will likely determine to which of these two camps one is more sympathetic. Epistemology is somewhat subject to taste. I recognise this maybe somewhat controversial. Nonetheless, here is why:

The issue ultimately relies on the strength of thought experiments like Brains in Vats and demonic deception. Many of these arguments are based on fundamental questions of a cosmological nature. Do we hold all the cards? Are we being fooled? I will call these types

of arguments Knowledge Terminating Cosmologies (KTC). We can consider the argument as follows:

P: scientists know truths about nature.
 We justify this claim **P** with evidence.
 We ultimately determine whether or not these elements of evidence are reliable.
 Believing that **P** seems justifiable and we call it knowledge.

¬P: scientists do not know truths about nature.
 We justify **¬P** with elements of evidence.
 We ultimately determine whether **KTC** thought experiments are reliable evidence.
 Believing that **¬P** seems justifiable.

Most of us probably believe that **P** is more justifiable than **¬P**. The position **¬P** is a form of scepticism. However, can we afford to assume a high ground over **P** and **¬P**?

There are two possible interpretations of Bertrand Russell's famous teapot thought experiment that show this curiosity. The philosopher who asserts $\neg(\neg P)$ is faced with proving it—a problem which may be as difficult as the opposing view. I doubt that there is a microscopic teapot in orbit around the sun which is smaller than any device that we can develop to see it. I also doubt that our entire universe is actually in this kind of teapot. The denial of any hypothesis, is nonetheless, an assertion. The **KTC** hypothesis is difficult to rule out.

The argument raises the Burden of Proof Problem but the value of sceptical scenarios is that they remind us of our fallibility. It justifies irrealism to the extent that it makes us aware there is a possible scenario which in fact will obtain at time t and which converts our assertion that p to an assertion of $\neg p$. Therefore by knowledge **K** we mean, possibly proposition p by justifications $J_1... J_n$. Possibility is important here because we can imagine very many true propositions that have no accessible justifications. For example, we need the category true/false to understand the notion of the perfect crime.

Definition 6: By x knows (K) proposition p we should mean that p is possible and p is possibly justifiable by $(J_1...J_n)$. $Kxp =_{df} \Diamond p \wedge \Diamond J_1...J_n$

The symbol system or language offers us nothing other than instructions for understanding. Thus $Kx \leftrightarrow Bx + \text{warranted justifications i.e. fallibilism}$. We can see, however, that all we have is warranted believing. Believing well is a form of behaving well.

In an email correspondence with Elgin, she added, $Kx \leftrightarrow Bx + \text{warranted justifications} + \text{approximations that are true enough}$.

However, all bets may still be off. If we allow that there are **KTC** we must similarly allow for belief terminating cosmologies (**BTC**). The future of our unfolding universe may dwindle into nothingness. Without a backup on a hard drive, it is hard to argue we ever existed or that we ever believed or knew anything. Nihilism is unfortunately very coherent. In that sense, not only would our brain children be unreal but so would everything made of matter. If there are recurrent big crunches the same problem obtains. We are essentially erased.

Even the notion of know-how collapses. But, we don't even have to go that far. There is a problem of parsimony in this puzzle. We only need bivalence to explain the inner workings of our universe. Forces either attract or they repel. With assent and dissent do we not have enough to explain our epistemology in biological systems? Can we not be eliminativist regarding certainty and proof? Do we need more than fictions and facets? Can we use 'true' to simply mean well-faceted? Not quite. We require the category **isf** truth to create the possibility of fallibilism. This would seem to imply there is no definition of truth beyond its being simply a category of understanding underwriting the notion of fallibility. If this makes sense most of epistemology is cognitively viral.

Reinterpreting Vaihinger's philosophy of as if, we are committed to treating each other *as if* we exist. The same holds for atoms and numbers. The facets left over in story of phlogiston are found in its failure to successfully organise the features it was created to

organise. We may, therefore, treat phlogiston as if it is fundamentally fictional (disorganised) avoiding the *problem of being* entirely.

Finally, the intuition of the positivists may still be correct, although as I said above their medicine would kill the patient. Quite possibly, there is no resolution to existence questions. If we build explanations out of languages, it is fairly clear, that there are things we cannot build e.g. *891011*.

This leaves me agnostic on the idealism/physicalism debate and slightly favouring idealism (50.01%). This is an **isp** at the exterior of my capacity to form any beliefs.

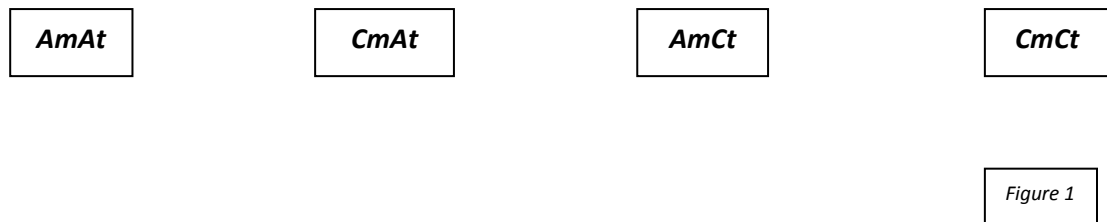
29. Some Negative Remarks. I will offer a list of criticisms of Elgin's work here implying only that it is a little too optimistic. This seems fair of Goodman also. They are no doubt perspectivalists i.e. aware that all constructs are unreal, however, they seem to avoid the problem of agency.

- 1) Elgin does not focus on *agency* enough. This results in a conflation of models *out there* with models in the mind – an impression of model and linguistic externalism results.
- 2) Without basing the discussion on agency, the resulting story is too optimistic. Model-making goes hand in hand with interpretation. Models do not misrepresent. People use them in various ways. Propaganda, for example. It is likely that models are made for misrepresenting more frequently than for representing. This notion needs to be emphasized.
- 3) The notion of scientific endeavor is insufficiently contrasted with artistic endeavor deriving from the belief that both rely on 'fictions'. The arts derive from common sense. Artists may use sketches, scores and scripts which can be somewhat regimented – but the goal in art when there is an epistemological one at all is common sense knowledge not scientific knowledge. This leads to a slight bias toward the belief that art must create understanding. This is an underlying and unfounded aesthetic.

30. Philosophy of Science and Models in the Literature. Model-making often helps us understand the world. We could probably even say understanding is simply a kind

of model-making. Here our definition of “model” is extremely broad. This is not necessarily a problem and it also helps explain why the literature on models is vast.

In the literature we find many ontological considerations regarding models. For instance we can read that models are used to represent or exemplify certain features of a target system. Also, models are sometimes abstract and sometimes concrete entities. Therefore, there are four logical possibilities generated from the simple categorical distinction between concrete and abstract, which I began to distinguish above. They are:¹⁴⁴



Max Black, in his *Models and Metaphors* (1962) was very preoccupied with the relation between language and model. Language use and model-making are intricately connected, but we can easily note that model-making is not necessarily a linguistic activity, though on occasion it can be. It is hard to draw a clear line between linguistic models and non-linguistic models. Ian Hacking in his *Representing and Intervening* (1983) draws a distinction between kinds of models; some “you could hold in your head rather than in your hands”.¹⁴⁵ The topic of modeling is therefore also linked to mental imagery or mental models.

Returning to the broadness problem, regimenting begs the question: *who will regiment and for whom?* Even if one would like to answer: ‘we’ *philosophers, of course!*—it is hardly a story that will make headlines on the news at 6. Furthermore, experimental

¹⁴⁴ The distinction between abstract and concrete is uncontroversial.

philosophy can help us recognize just how diverse are ‘our’ opinions in philosophy.¹⁴⁶ What would one expect? I have serious doubts concerning the general usefulness of attempting the regimentation of natural language in any sense other than in one’s own work.¹⁴⁷ The broadness problem may be unavoidable though possibly not a significant problem.

However, interpreting models, to the extent that it is accomplished with language, necessarily returns us to problems in philosophy of language and thus many of the most salient topics in philosophy of language pertain to a discussion of model-making. Giere and others mention this point in recent articles.¹⁴⁸

This brings us to a connected problem: i.e. natural language use is fundamentally *unregimented* and this is an endless source of confusion for philosophers who are fans of the arts and sciences. Progress is slow, although this seems to be changing due to the internet.

31. Agency. Though it may seem trivial at first, the emphasis on any exploration of models, theories, narratives, pictures, maps etc., as I have stated above, must be placed on agency and on interpretation. The white lie argument simply reminds us that scientists and philosophers are human and not always guided by a concern for the category truth.

We can argue, following Suarez (2003) and Giere (2004) that the study of the relationship between model and target must include an *agent* i.e. people use models for

¹⁴⁶ Weinberg J. M., Nichols, S., and Stich, S. (2001) “Normativity and Epistemic Intuitions” as well as philpapers.org survey.

¹⁴⁷ My doubts derive from the work of and communications with Noam Chomsky, James McGilvray and Paul Pietroski.

¹⁴⁸ See Giere, R. N. (Forthcoming), “An Agent-Based Conception of Models and Scientific Representation”.

certain *purposes* not all good.¹⁴⁹ Someone has to set-up models for them to be models. “So the formula is:

Agents 1) intend; 2) to use model M; 3) to represent a part of the world, W; 4) for some purpose P.¹⁵⁰

I am generally highly sympathetic to Giere’s views on agency. I am at odds however with an aspect of his interpretation of model-making in relation to work being carried out in linguistics.

In “An Agent-based Conception of Scientific Models and Representation”, Giere calls his approach “anti-Chomskyan”. It seems to me that exactly the opposite is true. Giere, I gather, has an incorrect interpretation of Chomsky’s linguistics. In “Language and Nature”, Chomsky outlines the importance of agency while analyzing *reference* in his unique fashion. Here is what Chomsky has to say:

Person X refers to Y by expression E with its intrinsic semantic properties, to talk about the world from certain intricate perspectives, focusing attention on certain particular aspects of it, under circumstances C, with the ‘locality of content’¹⁵¹ they induce.¹⁵²

¹⁴⁹ We will see that this is entirely in step with the “internalist” conception of language in the spirit of Noam Chomsky.

¹⁵⁰ Giere, R. N. (Forthcoming), “An Agent-Based Conception of Models and Scientific Representation” p. 1.

¹⁵¹ Locality of content... individual based approach to meaning.

¹⁵² Chomsky, N. (1995) “Language and Nature”, *Mind*, vol. 413, p. 43.

If we add Agent, Model and Purpose into Chomsky's expression we are fairly close to Giere's formulation: the formula mentioned above is: Agents 1) intend; 2) to use model M; 3) to represent a part of the world, W;¹⁵³ 4) for some purpose P.

Nevertheless, I agree with Giere that the study of reference has close ties to the topic of model-making and to all forms of representation, artistic, scientific or other. However, models (**Cm**) are *out there* like words (spoken or written) are *out there*. They are prompts which we ultimately make *out there*. As with a street sign, the word, e.g. *north* prompts me to think *north* conceptually and attaches to the "local" conceptual meaning in my head.

Chomsky's work is usage-based and agent-based. In general, his arguments have more to do with the scientific study of the language faculty and he argues that the study of externalized language (E-Language) is not a viable scientific topic. I also doubt that the study of E-models is similarly of any use.

While Chomsky would agree with many of Giere's arguments regarding "An Agent-based Conception of Scientific Models and Representation", Chomsky simply uses the study of usage to get at how we acquire language i.e. the language faculty. He studies usage all the time. Negative facts and the poverty of stimulus arguments are examples.

Goodman's work in *Languages of Art* puts forward the notion that understanding is fundamentally symbol system dependant. But, these systems have a biological origin. We cannot study the faculty of understanding the way we study visual faculty because the way Homo sapiens understand is fairly unique. The visual faculty is more primitive and arguably mental model-making (**AmCt** at least) can probably be found in other animals. Whether **AmAt**'s are ever made by non-human animals is another empirical question.

¹⁵³ We can allow that mathematical models are a part of the world. This is at the heart of my argument.

Much of what is above forms the basis of Chomsky's often misunderstood critiques of Behaviourism and Empiricism.

- 1) These arguments regard methodology: coherent scientific work is not accomplished by looking at masses of statistics. Rather scientists work by creating a model of an idealized situation and by developing experiments to find a data model which either supports the model or refutes it. Models with facets connect while models with too many fictional elements disconnect.
- 2) Usage is infinite. What parts should we gather? Isn't any decision about what to include or what not to include completely arbitrary if we proceed by studying usage?
- 3) Scientists after Galileo and Descartes began to ask why. Simply saying that "bodies fall to the ground because they seek their natural place" did not get at the more in depth elements of cause. The profound questions are very puzzling: why can we speak or think and why can we make models? Why can we understand each other?

Neither Chomsky, nor Giere disagree that, in all cases, while the natural or real events (targets) as well as concrete models share a kind of independence from the agent, the agent herself establishes the parameters of her experiments and ultimately sees the model as a model. Elgin and Goodman would also agree with this point. Thus agency must be the foundation of the study, which carries with it the notion of irrealism (i.e. the metaphysics of perspectivalism).

The study of models is therefore the study of the use and acquisition of the *model-making factory* which is located in our heads. Presumably, rocks and forces are not artefacts in the way that *Ford Model T's* and the *Bohr model* are, but we only understand rocks and forces to the extent that we do, whatever they may really be, through models and theories. Any concrete model *out there* cannot be differentiated from any other thing *out there* without the concept of agency. This supports facetist irrealism not fictionalist irrealism because Bunge's intuition is well-founded, there is simply nothing for fictionalists to learn from.

Models, to Elgin and Goodman are instruments for understanding. Hence, as we have seen, their intense preoccupations with themes such as idealization, distortion, curve-smoothing, *ceteris paribus* claims and simplification as well as languages and symbol systems are justified. They are committed to perspectivalism. Here, Bunge's version falters, if numbers are brain children, so are atoms and stars. Only irrealist facetism resolves both sides.

Both Elgin and Goodman have worked to distance themselves from hard relativism – the view that upon being confronted by God herself, the relativist claims, you are entitled to your opinion. Better versions are only a patch if we allow that we can learn from *fictions*.

Recall:

Proposition 2—*Arts and sciences employ fictions in the form of non-literal truths from which are gleaned understandings.*

We can amend it as follows:

Proposition 2'—*Arts and sciences often employ faceted narratives, sometimes in the form of approximations and sometimes in the form of non-literal sentences (metaphors) from which are gleaned understandings.*

32. The Dark Side. Nonetheless, there is a dark side to this story. If we are to understand the topic of agency we will need to bear in mind to what extent models, narratives, theories are used unethically. It is even very possible that representations are used more frequently for deception than for their contributions to understanding. The tendency to emphasize positive aspects and forget the negative is also very common in the literature on philosophy of language. Many modern philosophers of language are

influenced by epistemological concerns and tend to overlook many of the darker tendencies of the human animal.¹⁵⁴

No one is more articulate on this aspect of this topic than Chomsky. We can look at the problem as follows:

- 1) A representation **R** of everything **E** is everything **ROE**.
- 2) $E \leftrightarrow ROE$
- 3) If $\neg ROE$, then **R** differs from the target **T** by at least one feature **F**.
- 4) If **F** is missing from any **R** we are prompted to ask why.

This does not reduce everything to ideology because, I believe we have shown that even the most powerful scientific theory is unreal. Understanding leaves us wanting, but it is all we have.

33. Models of Science Made Simple. I am not suggesting science is simple. But, scientists avoid the impossible.

Assuming that we are fallible, we posit an objective world in contrast to the subjective perspective. As Elgin notes: “to be testable, science must use representations that are perspectival”.¹⁵⁵ Scientific models are never “utterly objective” but they are “objective” in a weaker sense “that they contain information that is invariant across representations of the same object”.¹⁵⁶ Elgin is suggesting that scientific theories are unreal.

We can recognize that concrete models are often realized as concrete physical objects. An example of a **CmCt** (*concrete model and concrete target*) relation is the architectural model that is involved in the creation of a real building (target). The relation

¹⁵⁴ I am thinking of H. P. Grice on meaning as communication; David Lewis on language as functions from truth to meaning etc.

¹⁵⁵ Giere, R. N. (Forthcoming), “An Agent-Based Conception of Models and Scientific Representation”, *Synthese*. p. 446.

¹⁵⁶ *ibid.* p. 446.

moves from **CmAt** (model/proposed building) to **CmCt** (model/real building) when the building is physically constructed.

A related notion for abstract models which Nancy Cartwright provides is specification. To Cartwright, abstract models are ‘realized’ with specifications.¹⁵⁷ For example, $h=1/2gt^2$ is realized by adding specific values.

Cartwright’s Realization definition: Abstract model with specifications (realized): we will abbreviate with **Am^r**

If an imaginary stone is dropped from an imaginary building the event is modelled by $h=1/2gt^2$. In this case we can classify the mathematics of this experiment as **AmAt** and **Am^rAt** when the values in question are specified (in approximations e.g. $h=1/2gt^2$ with $h = 20$ meters, and $g = 10m/s^2$, we calculate $t = 2$ seconds.). By actually dropping the stone we have **Am^rCt: time = 2 seconds.**¹⁵⁸

Connected to this is Cartwright’s suggestion that from a modelling principle like $f=ma$ we can generate many other “interpretive models”— an example of which is $h=1/2gt^2$. Cartwright calls these “bridge principles”. The idea is that there are a number of more ‘specific models’ which can model targets deriving from the very general modelling principle $f=ma$.

Giere interprets Cartwright as saying that what a theory is “is to be identified with a set of fundamental principles (e.g. $f=ma$) plus a set of bridge principles (e.g. $h=1/2gt^2$)”¹⁵⁹

“Representative models” represent aspects of the real world.¹⁶⁰ Giere prefers “representational models”. In this case, the relations involved are **AmCt** or **CmCt**.

¹⁵⁷ Giere, R. N. (2002), “Models, Metaphysics, and Methodology” p. 6-7.

¹⁵⁸ **Cm^rCt** requires that we make a physical model.

¹⁵⁹ Giere, R. N. (2002), “Models, Metaphysics, and Methodology” p. 6.

We can imagine a fairly ideal situation for modelling gravitation. A rock perched precariously on the edge of a cliff suddenly topples due to erosion of the hardened sand supporting it. We can create a concrete (as opposed to abstract) scale model with a lump of clay and a sand plaster mixture for the cliff. What we have is a concrete model with specifications. The experiment can be carried out and a multiplier can be used to factor in the much smaller distance the lump of clay travels than does the real rock. This compensation occurs in special effects models for films all the time. Essentially the camera speed is adjusted (sped up) so that when the image is viewed the lump of clay falls in “slow motion” i.e. the lump of clay appears to fall the distance that the rock falls in approximately the same amount of time. If there is no actual rock and cliff scenario, but a real model is created, we can see this situation is a **Cm'At**. Similarly, if we only model the process mathematically by applying specifications to our “interpretative principles” we can view the situation as **Am'At**. What we want to note from these examples however is that the falling rock and falling lump of clay are well-modelled events. Scientists have a fairly good command of this kind of event and we seem to understand something when we can arrive at a fairly good prediction.

Giere provides an interesting example: He imagines a steel ball suspended by an electromagnet. When the ball is released, a timer begins and the ball lands on a switch which stops the timer. This is a fairly “regimented” system and we can arrive at more accuracy than say using a stop watch. The falling of the steel ball will be measurable by the same “interpretive principles”. However, no understanding of why the ball sticks to the electromagnet can be garnered by this modelling system. We need the “principles of electromagnetism” for that. We can even imagine, as Giere does, that we could slow the descent of the ball by using electromagnets placed along the line of descent. Again, we need the “principles of electromagnetism”.

¹⁶⁰ Cartwright, N. D. (1999) *The Dappled World. A Study of the Boundaries of Science*, p. 180-98.

A related reason for the popularity of *Languages of Art* is that Goodman emphasises the role of art in contributing to our understanding. Science does an excellent job explaining simpler systems but gets into difficulty regarding more complex systems, e.g. human behaviour.¹⁶¹ In one way, this is the core of both Elgin's and Goodman's work. Art helps us to understand things science cannot. But this notion also figures in Chomsky's work. "We will always learn more about human life and human personality from novels than from scientific psychology".¹⁶²

If we recall Giere's example above of a suspended metal ball and electromagnet, we can see that some systems are far simpler than others by virtue of how we limit the systems. We can come to a fairly accurate prediction for the time it takes for the ball to fall. We have no way of modelling when and whether the scientist in question will or will not push the switch. Multiple models compound complexity. In this arena we are driven to rely on common sense. Our intuitions are no less valuable than our best science.

We can now notice that while scientific representations contribute to our understanding in many and varied ways, we are ultimately left to our intuitions and feelings concerning complex aspects of human behaviour. Politics, the arts, the humanities therefore, differ substantially from the regimented world of scientific modelling and theory making. The targets cannot be regimented in such a way as to be modeled scientifically. This implies that while common sense relies on science on occasion, the ultimate guide in other realms are aspects that we can fairly attribute to human nature. As *Homo sapiens* we share capacities and concepts. We have deep intuitions for what it means, for example, to lie, to apologize or to be greedy. These are modelled in the realm of the arts in very successful ways. There is an *isf* ought. The *isp* is where did it come from.

¹⁶¹Chomsky, N. (1983) "Things No Amount of Learning Can Teach" Noam Chomsky interviewed by John Gliedman *Omni*, 6:11, November. See *chomsky info.info* <http://www.chomsky.info/interviews/198311--.htm> consulted on 11 24 2011.

¹⁶² Chomsky, N. (2004) *Language and Politics*. p. 52.

I will therefore support the Strong Thesis over the Weak Thesis.

Weak Thesis Statement—*both the arts and sciences can contribute to understanding. They are invaluable forms which may always function in radically different ways on radically different domains.*

Strong Thesis Statement—*the arts contribute to the understanding of a domain that is fundamentally inaccessible to the sciences.*

My primary reason for this relies on the idea that art can contribute to understanding with a very high degree of disorganization. Art teaches us to respect play in playing. Science teaches that we need play by working.

Very loosely speaking, understanding is simply some kind of model-making of the world (whatever that is) by using some kind of language or if you prefer symbol system. In another way, Bunge expressed it as follows: “the conceptual conquest of reality starts, paradoxically enough, by idealizing it.”¹⁶³

I also think it should be reasonably uncontroversial to suggest science is a particular way of understanding i.e. using language and making models. Simply, a scientist’s use of language is specialized or if you will, a scientist strives to use language in a highly regimented way. As Elgin notes, “Natural science is rigorous. It does not use vague terms like ‘game’”.¹⁶⁴ This is another way of expressing Sellars’ distinction between manifest image and scientific image.

If my version of resolving the problem of fictionalism is successful, we may note that I cannot support the approaches of Giere and Cartwright on *fictions* in science. They are, in my view, both involved in the general muddle over *genre* and *concept* re: fiction.

¹⁶³ Bunge, M. (1973), *Method, Model and Matter*, p. 93.

¹⁶⁴ Elgin, C. Z. (2010) “Telling Instances”, p. 1.

34. Unregimented Quality of Natural Languages and the Relationship to Models. The original source of the distinction between *regimented* and *unregimented* language use is possibly Wittgenstein, (It also is the title of W. V. O. Quine’s 5th chapter in *Word and Object*) but Chomsky has contributed to making it central to the particular story of language he tells. The basic idea is that natural language use can be distinguished from the use of artificial languages which are *regimented* or formal or constructed for specific functions (symbol systems like *musical notation, scientific and mathematical languages*) predominantly because natural language is a “biological engine”¹⁶⁵ and “part of our biological endowment”¹⁶⁶ whereas regimented language is entirely made. Following Chomsky, natural language grows in our individual brains whereas we learn artificial languages in another way.¹⁶⁷

As a starting point, we will presume that natural languages are often used in unregimented ways — that they allow us an extraordinarily large range of subtly varied and necessarily creative possible ‘uses’.

I can support this idea that natural language use is *unregimented* with a few examples: we can “re-build our houses” from scratch and “move London” without moving any buildings but we cannot “re-build [an automobile] motor that has been reduced to dust” (my emphasis).¹⁶⁸ We can say of Jones, that *he ‘is not’ the same man he used to be*, or of Karl Marx, that *he ‘is’ the most famous philosopher buried in Highgate cemetery*. We can talk and think abstractly and/or concretely and we can shift freely about, all the while maintaining some uniformity of meaning and general comprehensibility. While these

¹⁶⁵ McGilvray, J. (2005) “Meaning and Creativity”, p. 205.

¹⁶⁶ Chomsky, (2002) *New Horizons in the Study of Language and Mind*, p.1

¹⁶⁷ See Chomsky info. <http://www.chomsky.info/interviews/198311--.htm> consulted on 11/25 2011

¹⁶⁸ Chomsky, N. (1995) “Language and Nature”, p. 3-5.

ambiguous habits are not that problematic in natural language, they are simply not desirable in the sciences.

Nonetheless, it would be too bold to assume that the function of natural language is to convey right representations of the world—a conclusion that appears regularly in the heavily epistemology-based tradition of philosophy of language—because we use our natural languages to do many other things as well. We *make up stories*, we *tell lies* (hopefully white) and we *imagine alternate futures* (preferably bright).

For instance, Wittgenstein offers a surprising and oft quoted list expressing this *unregimented* quality of natural language use at aphorism §23 (“Play-acting— Singing catches— Guessing riddles” to name a few). He continues, we are “confus[ed] by the uniform appearance of words” (§11). Words are tools that we use to do many different things. Natural language has many parts and many “levers”. Wittgenstein’s consideration of the “blurry” and “unbounded” word *game* quoted above from Elgin, is an excellent example of this *unregimented* quality of natural language use (§70/§71).

Furthermore, Wittgenstein’s response to his earlier work and to logicism regarding natural language is connected to this idea of rigidity or regimentation. We could say that natural language is elastic in a way that formal languages are not. Paul Pietroski describes natural language as “flexible”¹⁶⁹ and Wittgenstein warns us against “subliming language” (§38, /§81 /§94).

Wittgenstein’s position on the question of meaning, however, is that they are to be found in “use” (§30, §43) within communities, and learned in a shared “form of life”. Moreover, for Wittgenstein, natural language is *made* or “founded on conventions” (§355) of “agreement” (§241) although it is clearly *unregimented* for him. His “private language argument” supports the idea that languages are the property (belongings) of our

¹⁶⁹ Pietroski, P. (2005), “Meaning Before Truth”, p. 30.

communities. A preferable alternative would not imply that natural languages are in abstractly and vaguely defined communities but rather in the mind/brains of individuals. Still, we can gather from Wittgenstein that no *theory of meaning* can be developed from studying use. At best we can only describe what we do when we use *unregimented* languages. Regimented language use depends far more on community involvement than does unregimented language use. If we follow Chomsky on the matter, natural language is bound by the internalized structure of concept formation resulting in common sense. However, common sense cannot control scientific research. So, that is where the line which must be drawn.

35. Regimentation: *Scientific languages, mathematical symbol systems, logics, musical notation* are examples of *regimented languages*. These languages (if we wish to call them all languages) are often very precise (musical notation does not have to be); they have very clear references, rules of inference, are rule-governed and require community based standards. They are not however models of (or for) natural language.¹⁷⁰ Construing natural languages as though they are founded on logic was a common tendency in the early 20th century following Frege, (see the early work of Wittgenstein and of the positivists). Nonetheless, there is no study of natural language present in logicism, rather, what we observe, is some inverted attempt to grow natural language from some logical model. On the contrary we could ask: in what sense is there any empirical justification for this type of project? And does logicism leave any room for the other various linguistic elements (thinking, worrying, ruminating, acting and fantasizing etc.) which simply cannot be handled by regimented symbol systems?¹⁷¹ I am not suggesting that logic is irrelevant to ‘meaning’.

¹⁷⁰ Chomsky, N. (1955). “Logical Syntax and Semantics”, p. 43.

¹⁷¹ Chomsky, N. (2002), *New Horizons in the Study of Language and Mind*, p. 120-21.

This idea of describing natural languages as though they are built from *logical languages* can seem very compelling. We might think we would be more likely to agree on political and moral fronts if we could be more unified linguistically or if we could communicate with greater precision. Following Frege we could believe that *signs* stand for *things* and with a handful *logical operators*, we might succeed in explaining meaning and possibly improving communication. The process would be a simple act of translation. In science this is clearly advantageous. It makes sense to represent *Hydrogen* with the letter *H* precisely because what makes science successful is that it names a concept or object within very specific parameters. However, where natural language is concerned, there is nothing about the idea of *regimentation* which is preferable or even achievable.

Moreover, if we consider logical operators (Frege was responsible for creating the early versions), the problem for natural language is compounded in infinitely subtle ways. Consider identity as an example. Some might argue that ‘a = a’ *means* ‘a is equal to a’, or that ‘=*af*’ is a proper replacement for ‘means’. Ever since Quine, Goodman and White wrote their series of papers deflating the distinction between analytic and synthetic, most philosophers have been sceptical regarding translations like these. Contrarily to the thesis of regimentation of natural language, Wittgenstein wondered about the statement: “war is war”¹⁷². Which logical operator can we use to translate the ‘is’ in that case? How about “love is in the air”? — How about “Freedom is just another word for nothing left to lose”? Clearly, identity (\equiv , \leftrightarrow) and definition ($=_{af}$) hardly reflect the variety of natural language uses for this one tiny word ‘is’. I prefer Bunge’s operator for modelling over identity. But, identity is always *ceteris paribus*.

And even if one could replace every possible use of ‘is’ with logical operators, what would be the point of the exercise? The kind of identity that Frege was attempting to describe is adapted to the specific purposes of logic and mathematics. Meaning of the

¹⁷² Wittgenstein, L. (1958) *The Philosophical Investigations*, p. 221.

subtle kind we are hoping to understand and indeed cherish is simply incompatible with *regimented* languages.

To emphasize these points I reiterate: natural language simply does not grow out of logic, if anything, the process is reversed. We are biological creatures that communicate and think using what Chomsky terms our mind/brains while some among us develop and use mathematical and scientific languages. Nevertheless, formal logic cannot be regarded as the model for natural language precisely because *regimented* languages are designed, constructed, and artificial — they are developed to reduce both ambiguity and flexibility. None of these qualities completely reflects the creative endowment of the human mind/brain. In effect, our creative minds imagine and developed these specialized languages. They are at the core of scientific methodology which has been central to this paper.

36. The Reference Problem. I make no attempt to define ‘reference’ here other than to describe it by stating that people use certain words (lexical items) to talk about and think about *concrete things* (roughly living or non-living) as well as *abstract things* (historical, sets of things, numbers).¹⁷³ We do this in common sense situations to ask for *puppies* or *permissions*, and in *regimented* practices like *set theory* when referring to “concepts such as ALEPH-NULL”.¹⁷⁴

What goes on when we refer to things in the world or even to abstract ideas in our heads? Do referring-words ‘connect to’ things in the world (referents)? Chomsky warns us against this manoeuvre: first, “words do not refer [people do]” and second “there is no [Fregean] word-thing relation”.¹⁷⁵ Similarly, McGilvray points out regarding words, that

¹⁷³ Chomsky, N. (1995) “Language and Nature”, p. 42-45.

¹⁷⁴ McGilvray, J. (2005) “Meaning and Creativity”, *The Cambridge Companion to Chomsky*, p. 209.

¹⁷⁵ Chomsky, N. (1995) “Language and Nature”, p. 43.

they are used by people, often “in similar ways; [and they] come to be related to the world. But they do neither by themselves”.¹⁷⁶ Part of why words cannot refer to things *out there* is simply that there are *no given objects out there*, distilled of our interests in them. Similarly there is no “platonic form” or *concept* or “mode of presentation” *out there*. However, there is evidence for there being *internal concepts* from which we organize sentences with meanings. This brings us to our final topic.

37. The Domain of Isp and Politics. I have primarily argued that to a greater or lesser degree every mental construct is unreal. In my communications with Chomsky over the years I have to admit, this was bothersome for him. In many ways we just do not speak this way and Chomsky returns to concepts that are innate. He would find the statement, for example, we must treat sick children *as if* they exist garish. But, there seems to be no alternative to this approach, because, things like corporations exist. We may wish to draw a line between concrete and abstract but the damage that unregulated corporations do is real. We must therefore treat corporations *as if* they do exist. Furthermore, we must recognize that there are peoples. These peoples can be organised, for example, into unions, they express their rights over territories in the case of Canadians. They can live under an imposed constitution e.g. the Québécois. They can live without passports as the Palestinians do. It is important to note that the corrupt and powerful use the argument that these are all unreal abstractions as form of propaganda. They often argue that the *Québécois people* or the *Palestinian people* are mere fictions. The result of this kind of argument is simply to make people what Chomsky calls “unpeople”. I would, therefore respond, it is preferable to treat a person *as if* she exists than to treat her *as if* she does not exist and the same holds for peoples. Peoples exist in the way that things like peoples exist.

The actual problem lies in the simple fact that we categorize as an aspect of our ability to understand. We can pretend to avoid it, but this only creates more problems. As

¹⁷⁶ McGilvray, J. (2005) *The Cambridge Companion to Chomsky*, p. 204.

anti-corporatists (nominalists) we could argue contrarily that there are only individuals. But then, can we not notice some are hungrier than others? And those among us who are hungry; are they not the hungry people?

Isp's can be thought of by how pressing they are. We may believe that the Cosmos was created by God, but it does not obviously help us cure cancer. The universe may be made of mind, but the child who goes hungry is not obviously helped by our belief in this idea. I am not denying that the notion of God is clearly unfaceted.

While scientific objects are understood to be unreal objects, there are good reasons to trust them. They work.

Conclusion

In this paper I posit that *fictionalism*, which can be described by the notion that we glean understandings from fictions in the form of non-literal truth is based on a category mistake. I nonetheless, support irrealism (i.e. the metaphysical consequence of perspectivalism) on the grounds that it entails fallibilism (agnosticism regarding *the real*).

I further argued that we must treat all faceted narratives *as if* they do exist. And these include everything from numbers, nations, and neutrinos to peoples, pandas and permissions. While these things may ultimately contradict one another ontologically, they remain well-faceted and therefore are of practical significance and theoretical interest.

Finally, whether this is justifiable or not remains to be evaluated, however, I suggest we avoid using the word ‘fiction’ when referring to the concept *fiction*, *as if* it were a noun but continue to do so when referring to the *genre*.

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Index

- Art
- art, vi, 2, 27, 28, 29, 63, 69, 74, 77, 79, 97, 102, 103, 113
- Bunge, 9, 12, 13, 14, 16, 17, 40, 41, 47, 48, 49, 50, 51, 52, 53, 54, 64, 65, 71, 98, 103, 108, 112, 114
- category, i, ii, 1, 8, 17, 28, 34, 40, 51, 65, 74, 91, 92, 95, 111
- Chomsky, vii, 1, 2, 9, 15, 16, 50, 58, 65, 68, 74, 80, 82, 94, 95, 96, 97, 99, 102, 104, 105, 106, 107, 108, 109, 112, 114
- Chomsky, N, 50, 96, 102, 105, 106, 107, 109, 112
- concept, i, ii, 1, 28, 29, 30, 31, 47, 55, 56, 59, 62, 64, 65, 68, 71, 72, 80, 81, 83, 85, 86, 88, 98, 104, 106, 107, 109
- Davidson, 21, 24, 73, 78
- dreams, 43, 81, 115
- Elgin, i, iii, i, ii, vii, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 16, 17, 19, 21, 22, 23, 25, 26, 27, 28, 29, 30, 35, 36, 37, 39, 40, 42, 43, 44, 46, 47, 48, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 63, 64, 67, 68, 69, 70, 71, 72, 73, 74, 75, 82, 83, 84, 85, 88, 89, 91, 92, 93, 97, 98, 99, 102, 104, 105, 112, 113
- Elgin, C. Z., 4, 5, 7, 11, 19, 23, 25, 27, 29, 35, 46, 54, 56, 57, 60, 61, 63, 69, 70, 73, 74, 83, 88, 104, 112, 113
- exemplification, 52, 69, 70, 73, 82
- faceted, ii, 46, 63, 64, 66, 71, 72, 81, 82, 83, 84, 85, 89, 92, 99, 110, 111
- Facetism, 53, 55, 64
- Fiction, i, iii, 9, 20, 71, 77, 84
- fictional, ii, 9, 14, 15, 20, 22, 24, 25, 28, 34, 36, 39, 43, 44, 46, 47, 53, 60, 63, 66, 68, 71, 72, 75, 78, 80, 81, 83, 85, 86, 89, 92, 97
- fictionalism, ii, 3, 4, 5, 6, 8, 9, 13, 14, 16, 17, 18, 22, 23, 26, 30, 39, 40, 42, 45, 52, 53, 104, 111, 112
- Goodman, i, iii, i, ii, vi, 1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 15, 16, 17, 21, 22, 23, 25, 26, 27, 28, 30, 36, 37, 39, 40, 42, 43, 44, 46, 48, 53, 54, 55, 56, 57, 58, 61, 63, 64, 69, 70, 71, 73, 77, 79, 82, 92, 97, 98, 102, 107, 113, 114
- Goodman, N., 23, 27, 28, 30, 63, 69, 113
- identity, vii, 29, 48, 67, 107, 108
- internalist, 1, 18, 33, 59, 63, 64, 95
- Marquis, J.-P., 40, 41, 51, 54, 114
- Metaphors, 75, 94, 112
- mind/brains, 106, 108
- reference, 5, 9, 22, 33, 57, 58, 59, 60, 62, 69, 96, 109
- representation-as, 56, 60, 61
- Scheffler, 2, 3, 8, 114
- Seymour, M., 86, 114

Stephen Yablo

Yablo, 16

Suárez, 6, 7, 8, 16, 20, 21, 36, 37, 38, 39, 77, 114

unpeople, 110

Vaihinger, 1, 7, 8, 16, 20, 21, 38, 39, 40, 47, 53,
77, 92, 114

Wittgenstein, 9, 67, 78, 80, 104, 105, 106, 107,
108, 115

