What, I may be asked, is the use of knowing nature, and what use is the whole of astronomy on an empty stomach? . . . Painters and musicians are tolerated because they delight our senses, though they are of no use to us. The pleasure their work gives us is considered decent and even honorable in man. What abject ignorance and stupidity to withhold from the mind what is willingly granted to the eyes and ears! Whoever is against such delight is against nature itself.

—Johannes Kepler, *Dedicatio* to *Mysterium cosmographicum*

Galileo's telescope marks a total distancing of the mind from the world and the imposition upon that world of a system which belongs to the realm of discourse. It is as though the system expressed the essential structure of the world by becoming that world (so Descartes, in *Le monde*, invents a fiction of the world which by the end of the text is understood to express the essential nature of our world). The system is not restrained or bound by the fundamentally perspectival nature of the human mind. It is taken as a form of mediation dependent upon the actuality of the world in such a way that eventually all "qualitative phenomena" of whatever kind will be seen as "causally dependent upon spatio-temporal occurrences in some simple unilateral way."

The relationship between the distancing in question and this subsequent imposition of the system is emphasized suggestively by the fact that Ramus, who has already been mentioned in this connection, is one of the first to endorse wholeheartedly the Copernican system.


2. See the *Scholae physicae*, and especially his celebrated letter to Rheticus: Marie Delcourt [ed. and tr.], "Une lettre de Ramus à Joachim Rheticus (1563)," *Bulletin de l'Association Guillaume Budé*, no. 44 (July 1934), pp. 3–15.
Scientific discourse sought first of all to grasp an exterior, coming to view itself as a simple translation of the world of objects into a conceptual order. It claimed there was an adequately explicable correspondence between a referent supposed to be in nature and a sign which was assumed to mediate the other entirely passively. The order itself was to become ever more 'simplified' (and thus more generalized) as it was refined to the point of representation in mathematical, algebraic, or logical notations. The order of representation became a shorthand, and the shorthand became the world. A simple purpose was served. It was a matter, declared Descartes, of finding a "practical philosophy" which would allow men to "become as masters and possessors of nature." "Legitimate" knowledge, Bacon had already affirmed some thirty years earlier (c. 1607), involved the "invention of further means to endow the condition and life of man with new powers or works."

The quotation from Kepler's Dedicatio to the Mysterium cosmographicum (1596) which heads this chapter places that scientist squarely among those whom Bacon criticizes as seeking knowledge merely "for delight and satisfaction." Though the future Chancellor does not name Kepler (even assuming him to have been in a position to have done so), it would be little wonder if he had. For Kepler, in this first work of his on astronomy, uses a possible quantitative mathematical discourse as a part of a discourse of patterning. Even when he applies this discourse to the planetary movements, beginning in 1599 (but the Astronomia nova will appear only in 1609), the same practice is revealed, as Gérard Simon has shown. The analytical ordering does not replace the older discourse which performs a semi-concealed connection between concrete events outside the mind and some sort of logical order. It is simply a part of the performance of that connection, a composition of the mind as in some way bound to those concrete events: the world is not outside the mind, it is its container bound to it.

By means of this patterning, the mind 'subordinates' itself to an order of concrete events exterior to it, though that is an analytical way of putting it. Emphasizing a lack of accountability in terms of some real or of some truth, the discourse of patterning, at least as it


4. Bacon, Filum labyrinthi, p. 419.
appears in Kepler's work, is able even to indicate the ludic nature of all 'choices' concerning the form of what contains it. For the semes attached to the elements composing the pattern are not at all limited. In a letter to his friend Joachim Tanck at the time of the *Astronomia nova*, Kepler is able to write:

I play, indeed, with symbols, and I have started a book called *The Geometric Cabbala*, which is concerned with reaching the forms of natural objects by means of geometry. But when I play, I never forget that I am playing. For nothing is proved in symbols alone; nothing hidden is arrived at in natural philosophy by geometrical symbols . . . unless it is shown by conclusive reasons to be not only symbolic but to be an account of the connections between things and their causes.5

All phenomena are thus subject to an unlimited series of interpretations, and any 'explanation' to a limitless series of variations. This is why Kepler is not "prevented" (as Arthur Koestler puts it) from discovering his three laws of planetary movement, "despite" his organization of the universal order as a superimposition upon one another of the five Pythagorean solids, whose proportions would correspond to the progression of the distances of the five known planets from the sun. And for Kepler it is indeed a question of an order in the divine intellect, corresponding to some manifestation of the "world soul." The possibility of varying the details of the elaborated pattern allowed him, thanks to the precision of Tycho's figures, to find the first 'real' laws of nature.6 So Koestler. But that is to "ruin" Kepler's edifice to some extent. For Kepler did not betray his fidelity to that pattern, as may be seen from the *Harmonice mundi* of 1618. The German scientist viewed this work as the very capstone of his labors.

He indicates that the analytical discourse (of causality, for example) is only a form of shorthand for a part of the older discourse. It is a special case of interpretation. That is why Kepler himself attached but small importance in the *Harmonice* to his three laws, organized as one more element in a discourse of patterning. For him, the notion of harmony was the principal one. It is true, as Wolf-


gang Pauli has noted, that in Kepler’s argument a symbolic structure (an order of discourse, as I would call it) precedes and leads to the discovery of natural laws and the production of events in the world—though Kepler does not so produce them. That is an order of operation corresponding to one of Lévi-Strauss’s definitions of the functioning of a scientific logic.7 However, those events are then treated, as Simon demonstrates, as “remains and debris” inserted into the “overall” structure which they help to compose, to elaborate, and to “understand.” In 1618 they are a part of the greater harmony (into which the third law will also be injected), but far from organizing that harmony, they are seen merely as a part of its pattern. So much is that the case that later commentators have often accused Kepler of having “buried” his laws. They do not control events, they are one element in a vaster pattern in which both man and the world are orchestrated, and whose benefit is not that it can be used for the material betterment of mankind but simply that it gives joy and delight: the words which are constantly at the tip of Kepler’s pen to characterize his enterprise are gaudium, laetitia, and voluptas.

The considerable increase in the production of utopias and analogous formulations from this period on appears not so much an attempt to reaffirm a disappearing class of discourse (that of patterning) as the mark of its production of analytico-referential discourse and its gradual occultation by it. Kepler’s Somnium was published in 1634, but it had been written over a period of many years: its initial conception coinciding with the period of the Mysterium cosmographicum (or even slightly earlier, when he was still a student at Tübingen), the writing of the text of the dream occurring around 1609, that of the notes between 1621 and 1630. Simon has remarked that if one were to measure the respective importance of Kepler’s astronomical works in time then it is the Rodolphine Tables which occupy the greatest place in his researches (from 1601 to 1624).8

fact that place would rather appear to be occupied by the lunar speculations of the Somnium, since the conception dates from his university days while the text as we have it appeared only posthumously. He returned to it intermittently throughout his life, notably with the addition of the majority of the notes after 1620, having concluded the Harmony and the summing-up of the Epitome of Copernican Astronomy (1618–21). It is almost as though the Dream text posed a constant problem that Kepler eventually sought to elucidate in his notes by the use of an analytical tool developed elsewhere. In doing so he accumulates a series of possible readings of the text.

The Somnium is presented deliberately as corresponding at once to literary and scientific preoccupations. The latter occupy the central portion of the text of the Dream and most of the notes, the former appear most particularly in the prologue and the conclusion. I will suggest that the text fairly clearly divides, therefore, a discourse of patterning from one of analysis and reference. I will propose that the notes represent the appearance from within a discourse of patterning of the order of what will shortly become the dominant discourse.

The notes are a series of propositions intended to explain what “occurs” in the Dream itself. They place various types of order in a text which does not otherwise distinguish such types. Together they compose a series of different analyses in which the two most notable elements, apart from the analysis itself, are the constant claim to objective referentiality (corresponding to the implication that a variety of realities are being analyzed) and the equally constant imposition of the knowing I, of the enunciating self of the cogito. The series of analyses thus performed by Kepler, each of which seeks to provide a specific meaning for the text, are discussions of allegory, autobiography (both fictive and real), science, scientific methodology, literary fiction itself, and, to the extent that it enters into certain of the others, history. The several analytical systems all correspond to
the order of what is called “ordinary” language, in that they follow a
linear unidimensional system apparently predicking individual de-
otated meanings. They could, if one wished, be reduced to a single
logical formulation by the necessary removal of their semantic vari-
ables. They all adopt a rigorous expository order of cause and effect.
That is to say that they do for the Dream just what Livy and Florus,
in Dumézil’s exposition of the matter, did for the Horatii paradigm.
They offer us the “set of parallel readings” of which I spoke pre-
viously.

The dream voyage that is narrated functions quite differently. On
the one hand it does follow an order of linear seriality, since it is
inscribed in diachrony by virtue of its being the relation of a journey
(or journeys) in space, and because in however disorganized a way, it
does follow the order of a ‘scientific’ descriptive discourse: indeed it
must, since it is written on a page. At the same time it opposes this
linearity, for it occurs synchronically within the pattern of what may
be termed for the moment a ‘lunar myth,’ as well as syntopically (if I
may again be allowed the word) insofar as neither the supposed
writer nor, more to the point, the narrator moves from his ‘position’
to make the journey.

In the Somnium the patterning of concrete events still organizes
discourse in such a way that the presumably unlimited syntags
which can be produced by the rational code of an analytical dis-
course enter only as a “debris”, as products of operators which
within ‘their own’ discourse produce a quite different order. The
notes form a posterior analysis in ‘new’ terms. This is in strict
agreement with Lévi-Strauss’s conception of “mythical thinking,” though not with the form taken by his statement of it:
“natural phenomena . . . are . . . the medium through which myths try
to explain facts which are themselves not of a natural but a logical
order.”10 The use of the word “explain” here is as problematic as is
Simon’s use of “objectivity” in his discussion of the different “con-
ceptuality” he finds in Kepler.

It strikes me as of dubious utility to apply such analytical concepts
to a form of discourse functioning so differently from our own, and
to assume they provide us with some truth about its purpose. The
"phenomena" are taken as "natural" to the extent that they are observed, not observing, and to the extent that these operations are not taken as intricate with one another but as opposite poles within the organization of knowledge. The danger in this notion of "explanation" and of "objectivity" is that it adopts the metaphor of the telescope as expressive of the necessary form all knowledge must take, and tends therefore to make the a priori assumption that we can look for meaning in a class of discourse different from our own in the same way as we do in our own. It leads to the supposition that other classes of discourse, at least to an appreciable degree, follow the same forms of intentionality as our own, despite the recognition that its organization is quite different.

Simon observes in this regard that the objects of Kepler's knowledge are in no way susceptible of being superimposed on ours, just because the classificatory grid he uses is quite different. It might therefore appear that my object of showing in what way our analytic-referential model is already present in the Somnium is a self-contradiction: it would seem to be an attempt to divide Kepler's work into what can and what cannot be so superimposed. But this would be a double misunderstanding. In the first place, it will be clear that I view the presence of an analytical discursive order in the Somnium as simply one piece of a whole by which and in which it is subsumed. A later analysis can well extract it, just as it also extracted the three laws of planetary movement, provided that the analyst remains aware that such an undertaking is the ruin of Kepler's edifice. In the second place, the present aim is less to show how Kepler's work itself functions (though I certainly hope there is some indication of that) than to distinguish it from the practical functioning and consequences of what grew out of it into opposition. So far as the Somnium is concerned, I do not so much superimpose as decompose. The purpose here will be to indicate, by means of an opposition present for us in the text of the Dream, the operation of a discourse of patterning which has already given birth to and is confronted by another class of discourse.

Kepler's commentary in the notes represents an attempt to systematize the text which is inspired (apparently, when looked at retrospectively) by the distancing mechanism characteristic of analytic-referential discourse. Kepler is aware that he is attempting such a systematization ("that is to say . . .", "I meant by this . . ."), before such a process is even potentially a dominant order of dis-

Kepler’s Dream

course. “No important later [imaginary] voyage,” Marjorie Nicolson has written, “will employ so fully the supernatural, yet none will be more truly ‘scientific’ than that Dream, which was the fons et origo of the new genre, a chief source of cosmic voyages for three centuries.”

The first paragraph of Kepler’s text draws the modern reader progressively into a fictional, literary scheme. It places what is given as history into some other ‘place’ and ‘time’; it relates the ‘reality’ of history to the mystery of the supernatural and the legendary:

In the year 1608 there was a heated argument between the Emperor Rudolph and his brother, the Archduke Matthias. Their actions universally recalled precedents found in Bohemian history. Stimulated by the widespread public interest, I turned my attention to reading about Bohemia, and came upon the story of the heroine Libussa [historiam Libussae Viraginis], renowned for her skill in magic. It happened one night that after watching the stars and the moon, I went to bed and fell into a very deep sleep. In my sleep I seemed to be reading a book bought from the fair. Its contents were as follows.

My name is Duracotus. My country is Iceland, which the ancients call Thule. [E 11; L 1]

The narrator/dreamer ‘travels’ not only in space, from Kepler’s Bohemia to the semi-‘mythical’ Thule, but also in time: from the precise historical date of 1608 to some vague period characterized only by its relationship with antiquity, or, better, with storytelling. The figure which is the operator of both these transformations (literally becoming a ‘crossroads’) is the “virago” Libussa, the legendary founder of Prague, “primal mother-figure of the Bohemian people,” whose “gift of prophecy was such as to bring her the nickname, Sibylla Bohemica.” From what is presented as historical fact, we are transferred into some unsituated (and perhaps unsituable) time, and immediately into the dream. That dream will be governed by the image of the “stars and moon” by which it is directly preceded. The sun and the moon, indeed, will provide two pieces of “material debris” organizing discourse, concrete sensible images acting as discursive operators.

The dream is presented here in the guise of a book to be read and annotated. The narrator even underlines the literary context by references to the Frankfurt book fair both at the beginning and at the end of the dream, as though the book itself were to make possible

13. Lear, Kepler’s Dream, pp. 74–75.
some kind of equilibrium between history and the science of Kepler's own present study on the one hand and atemporality and magic on the other. In this first paragraph it is as though the narrator were producing the tale of a discourse which he presents as difficult, if not impossible, of comprehension to anyone imbued with the habit of a scientific discourse—supposing such a person yet to exist. The dream is a discourse whose "overload of information" must be reduced to the manageable proportions of a meaning or meanings which can be shown to be analyzable in terms of truth or falsehood. It is to be subjected to a series of different analyses, and those analyses can be viewed not simply as interchangeable interpretations but as parallel readings.

For Kepler insists that his analytical notes are not only scientific (chiefly physical and mathematical) confirmations and explanations, but that they represent at the same time an effort to organize a fictional structure whose meaning would otherwise remain unclear, if not unknown. In this connection Kepler finds it occasionally useful to remark, in his notes, upon his own mystification as to a number of similarities between his Dream and certain earlier fictions which he is unable (he says) to explain. A not inconsiderable portion of the notes was added in order to offer an alternative to the biographical interpretation which almost took his mother to the stake as a witch. This alternative thesis is the analysis of an allegory concerning the relationship of Science, Ignorance, and Reason, an allegory which is presented as a passage into the scientific material which is subsequently to be presented. Such analytical interpretations accompanying the text appear to perform the same serialization as that noted by Dumézil in his discussion of the Horatii paradigm.

I suggest that Kepler's Somnium manifests a moment when two different classes of discourse function with equivalent power—a moment of transition which must obviously be brief, for the one is

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14. The Latin word at the beginning of the text is nundinae, which strictly means a market occurring every nine days: here it simply means "fair." As Lear notes, to speak of a book market in Kepler's day first of all meant that of Frankfurt. At the end of the Somnium the dreamer's brusque awakening not only disturbs his sleep but has the unfortunate effect, he writes, of "wiping out the end of the book acquired at Frankfurt" (Rosen, p. 28; L 28). The printing of the Somnium was itself completed at Frankfurt.

15. For extensions of the autobiographical order, see Caspar, p. 245; Lear, pp. 22–27; Nicolson, pp. 43–45, and her "Kepler, the Somnium, and John Donne," in Science and Imagination (Ithaca, 1956), pp. 58–79. The allegorical has been noted and examined (other than by Kepler himself) by Ludwig Günter, in his edition of Keplers Traum vom Mond (Leipzig, 1898), pp. 37 ff.; Lear, pp. 39–50. The scientific has received attention from Günter, pp. 45 ff.; Nicolson, Voyages, pp. 45–47; Koestler, Sleepwalkers, pp. 416–19; Lear, pp. 52–72. See note 9 above.
being produced from the other. And it may be possible to generalize here and suggest that a whole type of literary discourse is being undermined as well. The allegorical dream was a literary genre much cultivated in the Middle Ages (one might mention the Roman de la rose, Piers Plowman, the names of Chaucer and Alain Chartier, among others), and while its ambiguity might be resolvable to a degree by the four stages of medieval interpretation, it could certainly not be reduced as it is by Kepler to the production of a discourse by and about a self (I am thinking of the autobiographical notes and the I of the notes) whose intention is given as providing truths about the world (the scientific and methodological notes). The allegorical interpretation is explained in the Somnium as a merely convenient way to pass from the expression of self to the presentation of the scientific material.

There is here no mystery to which allegory can offer an initial approach: on the contrary, allegory is no more than a discursive device connecting the thought of the self (and its expression) to the grasping of referential truth. It is almost as though the allegorical interpretation fulfilled the activity of the ergo between the cogito as the thought of self and the sum as the concept of other. But that is the explanation provided in the notes. In the text of the Dream itself the operation is not analytical. The spatial and temporal passage that precedes the dream proper, which may also be taken as a ‘cognitive’ passage proceeding from the known (history) to the unknown, from reality to fiction, from fact to dream, from, indeed, self (Kepler) to other (Duracotus)—that passage occurs through the presence of the figure of Libussa. The analyses of the notes propose to permit what is contained in the dream to become a part of an analytical knowledge. In doing so they would change the very structure of discourse. Even so, the fact that allegory permits the commentator to pass from autobiography to objectivity in the notes themselves makes of those allegorical notes a form of the operator, Libussa: such a passage is no longer needed, for example, by the Descartes of the Discours de la méthode who reasons from autobiography and an autoreflexive thought to the generalized objectivity of method.

During the transformation made possible by the “buying of the book,” the very person of the narrator changes. From Kepler, Imperial Mathematician, he becomes Duracotus, a character whose name attaches him to mysterious and legendary elements.¹⁶ He under-

¹⁶. In his first note, Kepler adds: “The very sound of the word was suggested to me by my recollection of proper names of similar sound in the history of Scotland, a country which looks out upon the Icelandic Sea” (E 30; L 29).
The Discourse of Modernism

goes a final metamorphosis when he becomes the Daemon, presented as of superior wisdom and science—indeed, as mind itself and knowledge, as we will see. This last change is a surreptitious one, for it occurs not narratively, not through what the narrator says (as does the change from Kepler to Duracotus), but syntactically, by what he does: the use of the third person of the verb to refer to the Daemon gives way definitively to that of the first person. It is as though in the text a further and different means from that of the notes had been found to pass from the self (under the names “Kepler” and now “Duracotus”) to the incorporation in that self of a knowledge exterior to it (the Daemon and his science). Organized very differently from the analytical systematization of the notes, though not from the use of the allegorical notes, this discursive passage moves within a different order.

The change of character performs a transformation parallel to the spatiotemporal one which occurs in the opening paragraph. Indeed the relationship between Duracotus and his mother, Fiolxhilde, matches that of the ‘original’ narrator with Libussa. Fiolxhilde provides a ‘crossroads’ just as Libussa does: like the latter figure, like the allegorical notes in their functioning, “Fiolxhilde” is an operator of transformations. I will come back to that aspect later. What is important here is that knowledge (“Daemon,” asserts Kepler in his note 51, comes from the Greek daiein, “to know”) is associated with the accumulation of patterns which are anything but analytical: it forms the end of this patterning before it becomes the aim of analysis (though there is, of course, nothing to prevent the process of patterning from being endless). It is as though analysis were contained in the patterning as the central portion of the text of the Somnium is contained in the dream. Nor is it perhaps indifferent to this matter that Aristotle (with whom Kepler was as familiar as any of his educated contemporaries) refers to dreams as “daemonic,” as following, that is to say, “the laws of the human spirit.”17 Through the Daemon the patterning of the Dream and understanding can be identified with one another.

In this connection my analysis will take up certain material offered by Bachelard and Jung which, it deserves repeating, is useful here only to the extent that it indicates discursive difference, not that it offers either a latent or a manifest content of the text. No attempt

Kepler’s Dream

will be made to use these writers in such a way, for example, that “when the work of interpretation has been completed, we perceive that a dream is the fulfilment of a wish.” I do not wish to repeat in a different key the kind of analysis suggested by the diverse series of notes added by Kepler: and to make either a Jungian or a Freudian psychoanalytical reading would simply be to add further parallel readings. The use of material drawn from such research is not arbitrary, however, inasmuch as it corresponds to certain of Kepler’s (and the narrator’s) own preoccupations. The use of such material must, nonetheless, be treated merely as indicative because it is impossible to describe ‘correctly’ (that is, in its own terms) a class of discourse functioning differently from our own.

Bachelard, then, suggests that in certain kinds of “poetic” texts there is a relationship between the image of water and that of the moon. Certainly in Duracotus the two images come together. On the one hand he is constantly surrounded by or crossing over water, while eventually he is metamorphosed into the lunar Daemon. The figure accords with Bachelard’s description even more closely: “The being destined to water is an ever-changing being. At each moment he is dying, some part of his substance is endlessly crumbling away.” The changes of the narrator do rather resemble the successive lifting of a series of skins. If Duracotus combines the two images, the figure of his mother, the sorceress Fiolxhilde, itself has a connection with that of the goddess Luna, the great and power Hecate; capable of granting or denying to man victory, wealth, and wisdom; goddess of the crossroads. It is Fiolxhilde who, by withdrawing into the darkness at a crossroads, permits the transformation of the narrator into the lunar Daemon. Libussa can then be understood as another form of the same figure. (It is, of course, this connection that led to the accusations of witchcraft which were brought against Kepler’s mother.)

The appearance of such figures in a text which is to treat of the moon and of the difficulties and possibility of a lunar journey with

18. Freud, Interpretation of Dreams, IV.121; and see esp. pp. 122–33.
20. See Encyclopedia Americana, art. “Hecate.” La grande encyclopédie (art. “Hécate”) adds that she was originally a lunar goddess (associated with Selene), that she later acquired traits from Athene, Demeter, and Artemis. At first she was an agent for both good and evil, but during the Middle Ages she was gradually stripped of her overt ambiguity and the accent was eventually placed entirely on her malevolent aspects: Kepler seems to be using the figure’s more ‘ambiguous’ aspects.
all its scientific and technical ramifications may well be a cause for some surprise in the modern mind: no doubt it is why the text has not been taken 'seriously' until very recently. For us that appearance accentuates the nonanalytical bases of the experience (and of experimentalism itself), thrusts it into the "material imagination," into a discourse different from ours.

In his notes Kepler indicates from the outset the use being made of such material:

In our German language this means "Ice Land." But in this remote island I perceived a place where I might fall asleep and dream, in imitation of the philosophers in this branch of literature. For Cicero crossed over into Africa when he was getting ready to dream. Moreover, in the same Western ocean Plato fashioned Atlantis, whence he summoned imaginary aids to military valor. Finally, Plutarch, too, in his little book on *The Face in the Moon*, after prolonged discussion ventures out into the American ocean and describes to us such an arrangement of islands as a modern geographer would probably apply to the Azores, Greenland, and the territory of Labrador, regions situated around Ice-land. Every time I reread this book by Plutarch, I am exceedingly amazed and keep wondering by what chance it happened that our dreams or fables coincided so closely.

In this same note, he remarks on the place of Hekla in mythology as the entrance to purgatory, and on that of the moon as "the purga-tory of souls," according to "the belief of pagan theology" (E 34, L 29). Such notes, while suggesting an 'explanation,' simply act as markers: for the distance demanded by the attempt to systematize in an analytical way and the consequent inability to grasp what is essential to the discourse of patterning is not only our difficulty. It is also Kepler's as he "plays with" the shorthand which is to become analytico-referential discourse.

The first journey Duracotus undertakes is narrated as the consequence of an accident: one might almost say that he 'undergoes' it. It results from his mother's anger that he opened out of curiosity a charm-bag of herbs gathered on Hekla which she was in the process of selling to a sea captain. The herbs are scattered, and to repair the captain's loss Fiolxhilde gives him her son:

On the next day he unexpectedly sailed out of the harbor, and with a favorable wind steered approximately toward Bergen in Norway. After

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21. *Somnium*, note 2. The last sentence of this passage is an example of Kepler's 'mystification.' Does he imply that there lies underneath a 'truth' indicated by the discourse of patterning but closed to analysis?
a few days a north wind sprang up and drove the ship between Norway and England. He headed for Denmark and passed through the strait, since he had to deliver a letter from a Bishop in Iceland to the Dane, Tycho Brahe, who lived on the island of Hven. The tossing of the boat and the unaccommodated warmth of the air made me violently sick. [E 12; L 2]

It will be worth lingering a moment over these herbs culled from the slopes of volcanic Hekla. As material of the patterning relation they are the plants which mediate between the regions of fire and those of earth.22 Connected with Fiolxhilde, the herbs themselves become discursive operators: they mark a passage from earth and water to fire and air. It is strictly in accordance with the order of ‘resemblance’ that these aromatic herbs should be directly responsible both for Duracotus’s (horizontal) voyage between his original law of earth and water (Iceland) and the later knowledge of air and fire to be acquired at Hven (already indicated by the phrase “the uncustomed warmth of the air”), and for his (vertical) journey, as the Daemon, from the earth to the moon.

The prefiguration of the lunar journey which will be ‘made’ later is contained, so to speak, in the herbs and is emphasized here in the narrator’s description of the rough journey to Hven, with its winds and heat (whatever the meteorological explanations of the wind and the rest provided in the technical notes). Concerning the trip to the moon, too, particular attention will be paid to the harshness of the elements, to the risks of illness and death, and so on.

As potential material of discourse the image of a difficult sea voyage toward what is often some lonely island lost in the midst of a vast ocean (for example, the utopias of Plato, More, Campanella, Bacon), sometimes interpreted as the search for knowledge or as the descent into the unconscious (and more), is often associated with the loss and rediscovery of discourse, with ‘a return to the primitive’ in the sense of a kind of purging of certain habitual ties to the external world. We find this here, too, and it is ‘translated’ into the terms of a pattern which makes use of a set of oppositions whose principal operator is the image of the moon itself (though that image takes various forms).

Duracotus is abandoned by his captain on the island of Hven, and is obliged to learn a new language in order to exchange with Tycho and his students his knowledge of his own country for theirs of various “marvels” concerned with the heavens (E 12–13; L 2). The

narrator himself emphasizes the relationship of this exchange with the one he will later have with the Daemon concerning the moon, associating once again the patterned and analytical aspects of the fiction: “I was delighted beyond measure by the astronomical activities, for Brahe and his students watched the moon and the stars all night with marvelous instruments. This practice reminded me of my mother, because she, too, used to commune with the moon constantly” (E 13; L 3). This connection is asserted once again when he writes that after his return to Iceland his mother was “deliriously happy that I had become acquainted with that science [of the heavens]. Comparing what she had learned with my remarks, she exclaimed that now she was ready” to introduce her son to other mysteries (E 13; L 3).

It is then that the fiction itself arrives at its crossroads: from dream relation it will become a kind of scientific treatise. Duracotus, through the power invested in the figure of Fiolhilde and the syntactic order of discourse, is to be transformed into the Daemon:

Without any delay I agreed that she should summon her teacher. I sat down, ready to hear the entire plan for the trip and description of the region. It was already spring. The moon, becoming a crescent, began to shine as soon as the sun set below the horizon, and was in conjunction with the planet Saturn in the sign of the Bull. My mother went away from me to the nearest crossroads. Raising a shout, she pronounced just a few words in which she couched her request. Having completed her ceremonies, she returned. With the outstretched palm of her right hand she commanded silence, and sat down beside me. Hardly had we covered our heads with our clothing (in accordance with our covenant) when the rasping of an indistinct and unclear voice became audible. It began at once as follows, albeit in the Icelandic tongue. [E 14–15; L 4]

At this crucial point in the text, then, the proposed lunar journey is associated with elements drawn from the “system of transformations” (as Simon calls it) that is astrology. The very many notes to this passage in Kepler’s text (notes 43–50), seeking to explain why this particular conjunction is necessary (the time of year, the need for darkness, for a crescent moon, and so on), become little more than aspects of the astrological element in question, as though the analyses were a necessary part of the transformation which is occurring: human (Duracotus) to inhuman (Daemon), terrestrial (Iceland) to celestial (moon). The analyses themselves can thus become simply a transformation of the patterning, as though the very production of analysis from within the discourse itself amounted to an affirmation
of the power of patterning to be all-embracing. For us it suggests a
discursive union which could not be long-lasting. In a sense, by the
union of certain images, the coexistence of discourses is itself indi­
cated in the text.

In the Mysterium coniunctionis, Jung quotes Pico's Heptaplus and
John Dee's Monas hieroglyphica respectively as follows:

[Luna] has an affinity with Venus, as is particularly to be seen from the
fact that she is sublimated in Taurus, the House of Venus, so much that
she nowhere else appears more auspicious and more beneficent.

And when the semi-circle of the moon was brought to be the compli­
ment of the sun, there was evening and there was morning, one day. Be
that (day) therefore the first, on which was made the light of the Philos­
ophers.

Jung remarks that "the union of ⊙ and ☽ gives the sign for Taurus,
♀ ruler of the house of Venus. The marriage of day (sun) and night
(moon) is the reason for the rather rare designation of the lapis
[philosopher's stone] as the 'filius unius diei' (son of one day)." This
astrological union is, therefore, the crossroads which is associated in
the text with the goddess Hecate through the figure of Fiolxhilde,
with Libussa, with the herbs from the slopes of Hekla, with the role
played by the allegorical notes, perhaps with that of the "book buy­
ing" itself.

The scientist gives explanations in his footnotes for much of this
passage, even remarking in passing on its being a "magica cere­
monia." He notes how many of these activities were for scientific
purposes, how covering the head with a cloak made it possible to ob­
serve heavenly bodies more easily, how his house had itself become a
crossroads for learned men, and so on. All this does not change in
the least the patterned order of this passage. All that seems to be
achieved by Kepler's continuing attempt to supply a series of sys­
tematic explanations of an order which escapes such explanations is
to underline their common use of the material of language. He
merely underlines Lévi-Strauss's claim that "symbols are more real
than what they symbolize, the signifier precedes and determines the
signified." The text of the Dream, confronted with the footnotes it

23. Carl Gustav Jung, Mysterium coniunctionis: An Enquiry into the Separation and
XIV.144 and n. 260.
24. Claude Lévi-Strauss, "Introduction à l'oeuvre de Marcel Mauss," in Marcel
The Discourse of Modernism produces, emphasizes precisely that the semes associated with its diverse images can be extended without limit. The order of a discourse of patterning will be relatively strict and limited, as the conclusion of the present chapter will try to indicate, but its ‘meanings’ are not so restricted.

The marriage of the Sun and the Moon, then, ‘is’ that of Logos and Eros, of “discrimination, judgement, insight” with “the capacity to relate,” as Jung interprets it. It is perhaps the coincidence of an analytical discourse and one of patterning: Dionysus as Apollo, to recall Nietzsche’s metaphor. That precarious coincidence is perhaps the design of the text of the Somnium, which does not fail to recognize the difficulty: “Should it [the moon] regain its full light while we are still in transit, our departure becomes futile” (E 15; L 6). The figure of Duracotus, as Daemon, will be the operator of this transformation.

Duracotus, enamored of the moon, has insisted that his youth was passed under the sign of the sun: “In the earliest days of my boyhood my mother, leading me by the hand and sometimes hoisting me up on her shoulders, often used to take me to the lower slopes of Mt. Hekla. These excursions were made especially around St. John’s Day [festum divi Ioannis], when the sun is visible all twenty-four hours, and there is no night [nocti nullum relinquit locum]” (E 12; L 2). Needless to say, the notes again add ‘scientific’ reasons for the time chosen. We may add, however, that a certain ambiguity in the matter makes possible a further transformation between sun and moon. While the summer solstice, occurring shortly before the Feast in question, places it under a twenty-four hour sun in Iceland, its date also narrowly precedes the earth’s aphelion: what better time, one might ask, for communing with the lunar elements than when Apollo is at his furthest? One other element may be noted (of which Cyrano will make particular use, we will see). The popular Feast of St. John was (and in some places still is) accompanied by a kind of fire ritual which strikingly resembles what ethnologists and historians of religion have been able to tell us about the techniques of the shaman as he prepares his entry into the regions beyond. The Feast was furthermore understood as the celebration of a resurrection and spiritual rebirth.

26. The summer solstice occurs on June 21 or 22, aphelion around July 2; the Feast of St. John takes place on June 24. La grande encyclopédie (art. “Le feu de la Saint-Jean”) says: “A popular custom still continued in many villages and hamlets . . . fires are lit, around which people dance, and over which they leap.” (In its transformation as the National Day of Quebec, the celebration occurs to this day in North America.) The Catholic Encyclopedia (New York, 1910), VIII.490d, adds that apart from its being
Kepler’s Dream  •  157

Kepler, of course, was well aware of all this (though not, doubtless, of the import of the shamanic ritual as such). Certainly he was familiar with the details of the fire rituals surrounding the Feast of St. John; his intimacy with astrology and its significance in his researches is now well documented by Simon’s work. More than that, however, the order of this discourse with its attached notes corresponds entirely with the concept of science which was indicated at the beginning of this chapter: analytical ordering not as a dominant form of rationality, but as a part of an all-embracing discourse. It is here that one may look for what might be called the ‘motivating force’ behind the narrator’s transformations.

The obvious analytical associations with a “rising from the underworld” (Hekla, writes Kepler), with a resurrection; the ambiguity of an ascent from one purgatory to what might well prove another (the moon), and that by a figure which is itself ambiguous (for the Daemon, like Hecate and her avatars, is not only a ‘good’ spirit of knowledge but also a potentially ‘evil’ spirit which can bring death)—these elements, like others already mentioned, suggest some statement of union, however precarious and momentary. It is a ‘marriage,’ an equilibrium whose symbols the narrator constantly elaborates.

His return to Iceland thus occurs when “autumn was approaching, to be followed by those long nights of ours, since during the month in which Christ was born the sun barely rises at noon and sets again at once” (E 13; L 3). Duracotus insists upon the parallel between his voyage to the island of Hven and the journey to the moon. The Daemon, having appeared once mother and sun have cut themselves off from the exterior, presents the moon: “Fifty thousand German miles up in the ether lies the island of Levania” (E 15; L 5). The notion of distance is indeed emphasized, for he declares that it lies in aethero profundo—even as Kepler once more adds a technical explanation of this distance (note 53). Yet even in the footnotes the similarity of the two is emphasized: “It does not lie; rather, it floats, if we consider its resemblance to an island” (note 54).27

the oldest feast of the Greek and Roman liturgies, this feast is peculiar in that it celebrates a saint’s birthday. See also Sir James George Frazer, Balder the Beautiful: The Fire Festivals of Europe and the Doctrine of the External Soul, vols. 10 and 11 of The Golden Bough: A Study in Magic and Religion, 3d ed. (London, 1911–18), esp. X,160–219. For the techniques of shamanism see various writings of Eliade, but particularly, Le cham­


27. Given the implications of this passage, I add the original: “Non sita est, sed nata potiūs, si ad Insulae similitudinem respicimus. Sed hic jam ad imaginationem
The Daemon makes of the passage to the moon something like an opposition of life and death. He is himself the operator of this balancing act, just as was Duracotus between sun and moon, and the herbs between fire and earth. The Daemon remarks: "The road to it from here or from it to this earth is seldom open. When it is open, it is easy for our kind, but for transporting men it is assuredly most difficult and fraught with the greatest danger to life" (E 15; L 5). That Duracotus does not actually make the journey, according to the narrative, but remains with his head covered in Iceland, is of particular interest. To describe the voyage as though he were in the process of undertaking it would be to take a certain distance from it. Instead the journey occurs by means of a syntactic change to which I have already referred: the change in the person of the verb. All of a sudden the "they" being used by the Daemon to refer to men becomes "we":

The fixed stars look the same to all Levania as to us. But its view of the movements and sizes of the planets is very different from what we observe here, so that its entire system of astronomy is quite diverse. ... One of these [Subvolva; i.e., the side of the moon facing earth] always enjoys its Volva [i.e., the Earth], which among them takes the place of our moon. [E 17; L 8]

The Daemon, no longer talking as a spirit of the moon, has 'become' the narrator with his terrestrial viewpoint. A transformation, terrestrial/celestial, has occurred. It is, indeed, a point worth remarking that to my knowledge all commentators of Kepler's Somnium have discussed the text as though the narrator, Duracotus, does make the journey to the moon in the narration: as though they had readjusted the operation of the text to the needs of analysis. But the analytical need for a descriptive explanation of the passage to the moon is not a problem which patterning has to confront. We soon find ourselves 'on the surface of' the moon, and there follows a description apparently according to the possibilities allowed by physical laws.

I would say that we are thus 'transported' to the surface of the moon precisely because there is no description of any actual journey: for the narrator that is technologically impossible, and to recount it

visus loquendum fuit. Nam qui in Luna esset, omninō is Lunam stare loco fixam estimaret."

would be foolish in the very terms of the technical analyses with which Kepler associates his text. Some other operator functions therefore, and the passage to the moon consequently takes on a multiplicity of meanings in which the common denominator is the balancing of opposites. That is perhaps the reason why, in the central part of the *Somnium*, the narrator chiefly emphasizes the abrupt oppositions of light and shade, hot and cold, wet and dry, insisting upon them as the main characteristics of the moon. It is presented as a place where contraries meet but never coincide, where all is larger than familiar life. And the life of the moon, we gather, is such that “in general, the serpentine nature [*natura viperina*] predominates” (E 28; L 27).

Jung adds that “the union of consciousness (Sol) with its feminine counterpart the unconscious (Luna) has undesirable effects to begin with: it produces poisonous animals such as the dragon, the serpent, scorpion, basilisk, and toad.” Indeed, this fiction echoes in microcosm the entire work of Kepler, conceived as a series of possible interpretations of a system present in the divine intellect. Science was a kind of interrogation of the manifestations of the “world soul” whose essence must forever remain indistinct for humans, by virtue of their own participation in it, but whose limitless appearances were available for ordering into a pattern which would reflect in some way such an essence.

The presence of the image of the moon in the discourse of patterning—as death, as the unconscious, as “the capacity to relate,” or however it may be interpreted by analysis—marks that that discourse has attained a balance which is excluded from analytico-referential discourse. As a product of patterning, analysis reveals thereby, in its very project, a central contradiction: the aim of the linear discourse of analysis is to be a continuing process providing its user with an eventually ‘complete’ knowledge. Descartes, indeed, was able to claim that that end would be achieved in not more than a few centuries. But such knowledge would be the negation of its own ordering, for it would put an end to the continuing process. Analytico-referential discourse is thus a process which inscribes stasis as its goal: it is aimed, so to speak, at entropy. Perhaps, again, that is why it is in the nineteenth-century creation of thermodynamic theory that this discourse itself is brought into crisis. In a sense the discourse of patterning can ‘cope with’ its own death in a way which is unavailable for

30. See the letter-preface to the French translation of the *Principes de la philosophie*, in *Oeuvres philosophiques*, III. 783–84.
analytico-referential discourse. The former has a way of coping with ‘things’ that are inexpressible for the latter, and because analysis nonetheless lays claim to completeness, such ‘things’ can only signal its failure and death, not because it has finally said everything but because it is unable to do so.

Kepler’s notes are symptomatic of the development of analytical knowing; and so, too, is their accumulation. The development is marked by their continual suggestions (both implicit and explicit) that such a systematization is possible. It is even more clearly marked by the fact that they even try to reduce the telling itself to mythology through an ongoing attempt to explain the denotation of certain elements of the text: Fiolxhilde, Duracotus, the beasts of the moon, the magic, the movements of the moon, the positions of the stars and sun are all elements to be explained in terms of some real event. By such means the ‘mysterious’ elements would be made the syntagmatic equal of the other accumulating readings.

The pattern produced by the sun and the moon, Iceland and Hven, Libussa and Fiolxhilde, Duracotus and the Daemon, by the herbs, the allegorical notes, and the change from third to first person of the verb (a collection of which one could make the same remark as we earlier saw Hacking make with regard to Paracelsus’s lists of signs): that pattern is precisely what cannot be explained—except reductively, by seeking for singular meanings. That pattern can only be viewed as a system of transformations. The elements of the text perform the union which the notes are unable to grasp. That is what I mean by the moon as ‘death’ of discourse: as the movement of analysis itself contradicts (and is contradicted by) the stasis of its goal, so patterning denies the very premise of analysis. Patterning shows, it does not say.

Analysis, however, cannot permit this potential death to remain without explanation. To do so would be to inscribe (as opposed to occulting) the denial of its goal at the very outset. It must find a way to represent it, even as an exclusion—madness, for example, or myth: but not myth as a discursive relation; myth as an object of analytical study, as that “primitive thought” or “savage mind” which Ernst Cassirer, with seeming innocence, is able to equate with madness: “It may be pointed out in passing that the belief in the ‘substantiality’ of the word, which dominates all mythical thinking, may be observed in almost unchanged form in certain pathological phenomena.”

The accumulation of the notes of the *Somnium* appears for us as an effort to achieve that representation. Precisely because the two discourses are incompatible that accumulation could have been endless. Patterning can do no more for analysis than supply information out of which the latter will have to multiply meanings. That is why the notes of the *Somnium* are three times as long as the text they seek to explicate, and that is perhaps why the period of its writing covers Kepler’s entire lifetime: “To write so as not to die, as Blanchot said, or perhaps speaking so as not to die is a task no doubt as old as speech. The most mortal of decisions inevitably remains suspended for yet the time of a tale.”32

In this way analytico-referential discourse is a kind of everlasting retarding of its own death. Confronted with the very discourse which produced it, it reveals that its claim to the production of true knowledge about the real is a means of occulting this necessity of speech as the mark of immortality (rather than as the mere mediator and container of knowledge). Speech was taken as the guarantor and index of humanity from the time of the oldest theories of language down to the most modern (at least before Derrida). Plato’s fear of writing, like Saussure’s, was just the fear of a kind of death in stillness, of a passage out of life into memory: but neither then nor perhaps now was that aspect concealed as it was when the analytico-referential took over. Speech, then, was no longer simply the mark of humanity, of a human activity in the world; it became the guarantor of man’s rationality and the sign of a human use of the world.

Kepler’s *Somnium* reveals the production of analytico-referential discourse from within the very discourse which puts it in doubt (as other than a ‘shorthand’). Patterning appears to succeed in balancing discourse and death. The *Dream* may fail to produce an explanation of the union I have been indicating in its various analytical sequences and be ‘obliged’ to break off abruptly.33 It nonetheless composes that union from various elements. We have seen in the text a set of sequences whose syntagmatic orders seem similar: Kepler thinking about Bohemia and its history; the dreamer opening his book and coming upon Iceland; Duracotus upsetting the herbs and journeying to Hven; Duracotus ‘becoming’ the Daemon and finding himself before a view of the moon through the change from the first to the third person of the verb. Each of these sequences is made possible

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32. Michel Foucault, “Le langage à l’infini,” *Tel Quel*, 15 (1963), 44.
33. But Kepler appears to have thought it finished. Just before his death he wrote to Philip Müller that six sheets of text and notes were in proof: see Carola Baumgardt, *Johannes Kepler: Life and Letters* (New York, 1951), p. 187.
through an operator to which I have frequently referred as a 'crossroads.' Indicators drawn from a variety of sources suggest that underlying these transformations is the 'need' for some kind of 'union,' of equilibrium: Libussa makes possible an 'exchange' between history and magic, between the natural and the supernatural; Duracotus between the moon and the sun, death and life, and so on; the herbs between earth and water, fire and air; Fiolxhilde between the terrestrial and the celestial. This balance is achieved in the text not by what it says but by how it says it, or, better yet, by the mere fact of inscribing these diverse elements. I suggested that this overflowed into the notes due to the role played there by the allegorical interpretations, making possible a passage from the autobiographical to the objective.

It seems to me that the four-column model proposed by Lévi-Strauss can help us divine something of the difference all this implies between two classes of discourse:

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<table>
<thead>
<tr>
<th>SELF</th>
<th>OTHER</th>
<th>PROCESS</th>
<th>STASIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kepler Dreamer</td>
<td>Libussa (Interpreter/Reader?)</td>
<td>History Book</td>
<td>Bohemia Iceland</td>
</tr>
<tr>
<td>Duracotus</td>
<td>Captain (and/or) herbs Fiolxhilde</td>
<td>Sea voyage Daemon</td>
<td>Hven Moon</td>
</tr>
</tbody>
</table>
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This is similar to what Simon suggests. Speaking of Kepler's use of the zodiac in astrology he notes that the semes attached to the zodiacal sign are capable of infinite extension and can be multiplied without limit. This is because their function is to serve as "mediators between absolutely heterogeneous fields, such as heaven and earth, the world and man, nature and society." It seems quite apparent that the patterning of the Somni um works in just the same way. We are justified in calling the elements of the diagram and those of the other transformations mentioned in the course of this chapter "intellectual operators," as Simon does the signs of the zodiac and Lévi-Strauss the animals which appear in "mythical thought" or in the totem.34

One could, of course, propose other models, but since a model is at best only indicative there would be small point in doing so. Similarly, it is clear that the nomenclature of the columns is open to dispute, but the names given are merely those proposed by analysis, and several different 'possibilities' have already been suggested. What does not seem to me doubtful is the existence of the relation

between the elements in something like this form. Here discourse simply acts as mediation between ‘self’ and ‘other,’ it does not set up a paradox between process (life) and stasis (death)—or between any of the other “absolutely heterogeneous fields.” It does not seek any single explanation. The system of transformations simply places the diverse elements in ‘equilibrium’ and leaves it at that. The possibility of explanation is displaced into another discourse.

Such a model nonetheless provokes a number of questions, only one of which strikes me as of immediate and real importance: Could one not compose just such a plan for any text (‘literary’ or other)?

The fundamental question here is not whether one can construct such a plan (to which the answer is necessarily affirmative) but whether, once constructed, it suggests a different order from that of our linear expectations: as an equilibrium of ‘opposites’ (for us), for example, rather than a linear progression (cause → effect; origin → descent; class → species) or exclusive contrast (true/false). In the Kepler text we can see something of both. Inevitably, since the text is written, it is composed in diachrony, but the sequences and the various elements we have been observing do not become coherent until the diachrony is broken down and recomposed in some such model as that suggested. Then it presents just such a pattern of figures and images as I have been discussing. And they are ‘images.’ For, really, the symbolic interpretations sought by a Jung, a Bachelard, or an Eliade owe their meaning to the existence of the pattern and not vice versa: the images are there in the text, to be provided only subsequently with their ‘meanings,’ their one-to-one correspondences with the concepts of the psychoanalyst, the poetician, or the historian of religions.

As Lévi-Strauss and others have observed, what is important is not the singular meanings but that they are derived from the relations between the images. That is also what we can perceive in the notes of the Somnium, in those analytical projections which are at odds with a kind of harmony in the text, which echoes the implications of the letter to Joachim Tanck and of such works as the Mysterium cosmographicum and the Harmonice mundi. Those texts appear to seek a science which would not be the useful imposition of the discursive I but which would be a manifestation of laetitia, of voluptas, of participation in the “world soul” and of a spoken ‘presence’ in a world whose elements order discourse rather than the contrary: a discourse in which the order of speech constructs the world.

The point is just that the overall pattern reveals something different from the isolated syntagms. The laws of nature applying to the plane-
tary movements are not to be seen as points of departure for the construction of theories and the ordering of referential knowledge. They are simply bits and pieces of an overall harmony. That is why the equilibrium manifest in my (minimal) model of the text of the Somnium provides an index of a project different from the ‘voyage to understanding,’ or into the unconscious or whatever, of which the individual syntagms (the various separate sequences) might provide the symbol. Thus the patterned order is not at all to be confused with what might be called theme, motif, or topos. These are the functional elements of an analytical order. Patterning functions at odds with analysis: if the two discourses function simultaneously (as they seem to here), they subvert each other. The simultaneity does not add a supplementary layer of meaning (for example) but disperses meaning into a quite different optic. An element of patterning may well become a theme in a different discourse (say, the telling of a ‘myth’), but then its purpose is one of analysis. Indeed, we will see Cyrano do this with some of the very elements found in Kepler’s text. Cyrano takes them up and uses them for purposes of an analytical discourse. I return therefore to my question.

Can one do the same thing for later texts as one can for Kepler’s? That is, can one as a general rule (for I am speaking of dominance) show a plan whose order seems to be different from the ostensible direction of the narrative? One might attempt to suggest that it can be done for much later texts, as some from the nineteenth and twentieth centuries. But it would not seem to be possible in the same way, and one would suspect indeed that the kind of coherence that patterning provides is no longer available to us—it would, on the whole, be dismissed with scorn as “mysticism,” as Bertrand Russell does the conclusions of Wittgenstein’s Tra
catus in the introduction to that work. In modern texts, the presence of the “material image” could only be disruptive, not constructive: at least, if it could be constructive, it would construct a different discourse altogether.35

35. Concerning an apparent example of such disruption see Reiss, “Cosmic Discourse, or, The Solution of Signing,” Canadian Journal of Research in Semiotics, 8, no. 1–2 (Winter 1980), 123–45. With reference to certain holistic views of society, and subsequent to a willful misreading of Marxism, Karl Popper produces a fine example of the kind of rejection I have in mind: “The doctrine that we may obtain a kind of concrete knowledge of ‘reality itself’ is a well-known part of what can be technically described as mysticism: and so is the clamour for ‘wholes’” (Karl R. Popper, The Poverty of Historicism [1957; rpt. New York and Evanston, 1964], p. 78 n. 3). It may with some justice be doubted that the discourse Popper has in mind corresponds very precisely (to put it mildly) with what I am calling ‘patterning’ when he equates dialectical materialism with “utopianism” (thus reversing the evaluation of Marx and Engels themselves), but he does appear to have in mind something like a ‘patterned whole.’ That such an equation would annul history is precisely what the dispute between Popper and the Marxians was all about. See also note 4 to Chapter 5, below.
In later chapters I will use certain texts of the later seventeenth century primarily to indicate the occultation of a discourse and the rise to domination of another. A quick forward glance at the *Voyages* of Cyrano de Bergerac can give us an initial response to the question. For there, despite numerous other ambiguities, this is not one of them: if I try to apply the same model the peculiar thing is that the order disengaged by the columns is quite precisely that of the individual syntagms themselves. The order produced is a linear one of cause → effect: observation; first discussion of that observation and the statement of a hypothesis; experimental test; confirmation (full or partial) and new observation. But this order is already evidenced in each syntagm taken separately. Moreover, each sequence is given as *open*, in the sense that it is given as the beginning of the next sequence and as leading *causally* into it.

This kind of finding seems predominant in such later texts, and the lack of difference suggests that the analytico-referential order (in Cyrano's case following closely a Galilean experimentalist model) has by then become the dominant discourse. The two-dimensional model thus serves to show a difference between two forms of discourse: in the case of the analytico-referential the two dimensions coincide; in that of patterning they do not. In the latter case, therefore, we can simply note a mode of functioning; there is no question of ascribing 'meaning' to it. The lion has spoken, and we cannot understand it. For my present purpose that is all that is necessary, because what I am seeking to indicate is discursive functioning and its changes, not whatever might lie 'behind' or 'before' such functioning.

It is clear that the problem raised most urgently for the seventeenth century in the margins of Kepler's text is an epistemological one (and as an adjunct to that for us as critics, the question of the nature and functioning of discourse). A choice is now offered between the production of patterns and the construction of an analyzable meaning about the world, between a discourse of "joy and satisfaction," as Bacon scoffed, and one of utility and power. The ever more precise correspondence being achieved at the end of the Renaissance between an analytico-referential discourse and the world of phenomena made of the European seventeenth century perhaps the first after the fifth century of ancient Greece to feel the problem of knowledge as one having urgent need of a *solution*. This was so not only for the scientist and thinker but also for the technician and artisan who was to apply the abstracted system of the world to its controlling and possession: medicine and agriculture, geology and demography, education and economics, commerce and industry.
were just as much a part of this transformation as the “hard” sciences. The fate and significance of a discourse of patterning were tersely expressed at the time by another great scientist: “I am the more astonished at Kepler, than at any other,” avers Salviati in Galileo’s *Dialogue*. “Despite his open and acute mind, and though he has at his fingertips the motions attributed to the earth, he has nevertheless lent his ear and his assent to the moon’s dominion over the water, to occult properties, and to such puerilities.”

Galileo was, of course, aiming his criticism more generally, but the fact that in this instance he was wrong, that the “moon’s dominion over the water” should correspond both to scientific fact and to “popular superstition,” might give us pause. The perhaps not altogether untimely lesson of the *Somnium* is that although we may refer to “fact” and “superstition” as to two mutually exclusive classes of discourse, they are not so much “opposites” as complementary, different from one another in their constructs of the same.

Indeed, the most appropriate answer to Galileo is perhaps to be found in the work of an equally celebrated scientist of our own time: “Science and the majority of educated people smile if they are set the task of interpreting a dream. Only the common people, who cling to superstitious and who on this point are carrying on the convictions of antiquity, continue to insist that dreams can be interpreted.” Freud goes on in the same text to assert that such interpretation can and should only be the disclosing of relations, of a pattern: “Nevertheless all such systems of nomenclature and classification of the different kinds of delusion [he is referring specifically to paranoia and fetishism] according to their subject matter have something precarious and barren about them.”

Freud is not, of course, repeating Kepler’s attempt to associate two different classes of discourse (or what will become two); at least not in the same way. For if one cannot classify by subject matter, one can classify in accordance with the “laws” that control the processes in question. Freud’s purpose (unlike Jung’s or Eliade’s) is eventually to

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36. Galileo Galilei, *Dialogue Concerning the Two Chief World Systems—Ptolemaic and Copernican*, tr. Stillman Drake, 2d ed. (Berkeley and Los Angeles, 1970), p. 462 (Fourth Day). Shakespeare, as in so many other cases, offers a pleasant example of such popular views, when Falstaff remarks to Prince Hal: “and let men say we be men of good government, being governed, as the sea is, by our noble and chaste mistress the moon, under whose countenance we steal.” To which Hal replies: “Thou sayest well, and it holds well too; for the fortune of us that are the moon’s men doth ebb and flow like the sea, being governed as the sea is by the moon” (*Henry IV*, I.i.27–34). The play was probably written in 1597.

unveil “the structure of the apparatus of the mind and . . . the play of forces operating in it.” This, he asserts, cannot be achieved by the investigation of any “mental function taken in isolation” but only by “a comparative study of a whole series of such functions,” and by examining these processes, structures, and contexts from a diversity of viewpoints.38 Freud’s aim is not to provide singular meanings (though they may exist) but to ‘discover’ the processes that make the provision of such meanings possible (in mental functioning in general, in the case here of a given dream in particular, and also in consequence of the very process of analysis itself). Unlike Kepler, Freud views the relations (structures and processes) in question as both human and knowable. Unlike Galileo, he emphasizes structure and function over whatever precise ‘content’ they may be held to possess.

I will return to this matter later. For the present I will simply assert that like Frege, Peirce, and so many others, Freud shows the limits of the discursive class whose inception I am seeking to demonstrate here. It is therefore of considerable interest that in the first major psychological text of his career, The Interpretation of Dreams (1899–1900), Freud should have used the metaphor of the telescope to express the functioning of human mental processes. Indeed, the commentary concerning structure, function, and process to which I have just referred simply leads up to this introduction of the telescope.

I do not wish to interrupt the examination of the instauration of analytico-referentiality at this point, though it is useful—indeed essential—to keep the signs of its end in mind. I will therefore return in some detail to the question only in the concluding chapter. There I will suggest that Freudianism is a kind of ‘mythical’ repetition of a specific discursive history, the hypostatization of that history in the form of the human psyche and its permanent functioning. The matter is important because it tells us something about how a waning discourse can seek to maintain its dominance. It informs us of the possible consequences of ignoring the details of a discursive history. In the particular case of psychoanalysis, it also tells us something significant about our modernity and its ordering of certain forms of knowledge as power. But we need more information before we can draw conclusions in that direction, and so I will return to earlier developments.