

# Epilogue

## A Speculative Synthesis

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The implication-space semantics that we presented in Chapter Five marked the endpoint of our journey from the phenomenon of norms governing combinations of assertions and denials and the phenomenon of compossibility of worldly states to a realm of abstract entities that are the roles that can be identified in both of these phenomena. What we want to do in this epilogue is not an integral part of our accounts of reason relations, content, rational forms, or logic. It is rather a highly speculative and optional reflection on these accounts.<sup>1</sup> These speculations are inspired by the traditions of German idealism and (some versions of) scholastic Aristotelianism, although our ideas differ in important ways from those that can be found in either of these traditions.

Readers with no taste for this kind of speculative philosophy can ignore this epilogue without missing anything that is essential to the foregoing chapters. However, what we say below strikes us as an illuminating—though optional—perspective on our project. Since our project has many new and perhaps radical aspects, appreciating this perspective might be helpful, even for a reader who is unsympathetic to this style of philosophy.

In medieval terms, one arrives at a proposition *a posteriori* if one arrives at it on the basis of an appreciation of its consequences or effects. Kant calls this the “analytic method” (*Jäsche Logic*, §117, AA9, 149). In contrast to this, one arrives at a proposition *a priori* (in the medieval sense) if one arrives at it on the basis of an appreciation of prior, more fundamental, or higher principles or causes. Kant calls this the “synthetic method.” The way in which we have arrived at implication-space semantics was by distilling its structure out of two approaches to reason relations and, hence, conceptual content. The pragmatics-first approach uses a pragmatic-normative metavocabulary to give an account of reason relations. And the semantics-first approach uses a semantic-representationalist metavocabulary to give such an account. If these two approaches are—in one sense of that term—less fundamental than implication-space semantics, then we have arrived at implication-space semantics *a posteriori*

or by following the analytic method. In this epilogue, we want to sketch an attempt to pursue our project *a priori*, or, in Kantian terms, we want to pursue a synthetic methodology.

We will start with the most abstract characterization of rational forms—that is, propositional conceptual contents—from Chapter Five, and our aim is to explain how this yields the two incarnations of this structure with which we started. In particular, we will start with the monoidal structure of reason relations that we explained in Section 5.3. In the first section of this epilogue, we will render this monoidal structure in philosophical terms, thereby putting some philosophical content on the merely formal structure. In the second section, we combine this philosophical rendering of the fundamental structure of reason relations with what we call the “Rational Conflict Assumption” to arrive at the notion of a world that is the standard of accuracy and truth for occurrences of rational forms. In the third section, we want to show how the notions of discursive acts governed by a broadly normative kind of modality and worldly states governed by a broadly alethic kind of modality emerge from the notion of a world in a synthetic way, given some assumptions that we will highlight along the way. We will thus arrive at the idea of worldly states governed by a broadly alethic modality that we have encountered in Chapter Four. And we will end by returning to the pragmatic ideas of discursive acts of making claims that are governed by a broadly normative modality with which we began this volume in Chapters One to Three.

### **Rational Forms as Starting Points**

As we saw in Chapter Five, we can think of rational forms as roles that bearers of these rational forms can play in reason relations. In particular, we saw that sentences have a particular rational form in virtue of their assertions and denials playing a particular role with respect to further assertions and denials. And worldly propositions have a particular rational form in virtue of their truth-makers and falsity-makers playing a particular role with respect to further states. What it means to play such roles is for the assertions and denials or the truth-makers and falsity-makers to be incompatible with constellations of further assertions and denials or further states, respectively. The incompatibility among assertions and denials is normative, whereas the incompatibility among worldly states is alethic. These incompatibility relations encode the reason relations that are our central topic.

Recall from Section 5.3 that the essential mathematical structure of reason relations is the structure of a commutative monoid that is defined on a set of pairs, together with a bipartition of that set of pairs. Thus, the basic elements of this structure are pairs of bearers of rational forms:

candidate implications. There is a commutative and associative operation (with an identity element) of combining such implications to yield further implications. And a bipartition divides all implications into the excluded ones—the one that are out-of-bounds or impossible—and the ones that are not excluded.

This structure carries over to rational forms, which are the roles that bearers of rational forms can play in the monoid of reason relations just sketched. First, rational forms are implicational roles that are pairs of a premisory role and a conclusory role. Thus, we can say that rational forms have two sides or poles, namely their premisory role and their conclusory role. Second, rational forms can be combined to yield further rational forms. In particular they can be combined by the operation of adjunction, which is associative and commutative (and has an identity element). Third, there is a partition between rational forms for which all implications in the adjunction of their premisory and conclusory roles are excluded (so that every implication with a premise that has the premisory role of the rational form and a conclusion that has the conclusory role of the rational form is a good implication, see the definition of content entailment in Chapter Five) and those rational forms for which this is not the case. So, just like reason relations, so also rational forms have the structure of a commutative monoid that is defined on a set of pairs, together with a bipartition of the monoid set. This structure is the most abstract and general characterization of rational forms. For it to be more than merely a mathematical structure, we must spell out the notion of exclusion that defines the bipartition and the notion of combination that underlies the monoidal operation. By spelling out the philosophical significance of these notions, we can start to unpack the abstract mathematical structure of rational forms.

We will now sketch a synthetic and philosophical development of this abstract and merely formal characterization of rational forms. We will assume that we do not know what worldly states or discursive acts like assertions and denials are, and we will assume that we do not know which bearers of rational forms are governed by what kind of modality. Our aim is to let an understanding of these facts emerge from a development and unpacking of the fundamental nature of rational forms. Accordingly, we begin by spelling out in philosophical terms the fundamental features of rational forms that we have just sketched in formal terms.

The first feature of rational forms is that they have two sides or poles, which we may call their positive and negative poles. In the formal structure, this feature corresponds to the fact that the elements of our monoid set are pairs, where the two sides or poles of rational forms are the two elements of these pairs. To understand the philosophical significance of this, it is helpful to notice that we can consider rational forms at three levels. At the first level, a repeatable, abstract entity can have a rational form. (We

have seen in the analytic telling of our story that these entities will turn out to be sentences and worldly propositions.) At the second level, these abstract entities can occur in two different ways, which we call “positive” and “negative” ways to occur. Every occurrence of a rational form is an occurrence either of its positive pole or of its negative pole. In the first case the rational role occurs in a positive way, and in the second case the role occurs in a negative way. The positive and negative ways for a rational form to occur correspond to their premisory and conclusory roles in the implication-space semantics from Chapter Five. The occurrence of a rational form is a determinable, and its only two determinates are the positive and the negative occurrence of the rational form. At a third level, a particular object or event or fact is a particular positive or negative occurrence of one (or more) rational form(s). (We have seen in the analytic telling of our story that particular positive occurrences of rational forms—occurrences of their premisory roles—can be interpreted as assertions or as the obtaining of truth-makers, while particular negative occurrences of rational forms—occurrences of their conclusory roles—can be interpreted as denials or the obtaining of falsity-makers.) It is only at the third level that rational forms occur enmattered in particulars, and they always do so by way of the particular being a positive or negative occurrence of the rational form. We can summarize the situation as follows:

- Level 1      rational form
- Level 2      poles of the rational form: positive or negative
- Level 3      particular positive or negative occurrences of the rational form

The philosophical significance of the bipolarity of rational forms is that every particular occurrence of a rational form is an occurrence of either its negative or its positive pole. Rational forms and their poles are repeatables, but their individual occurrences are particulars.

A second essential feature of rational forms is that particular occurrences of positive and negative poles of various rational forms can be combined with each other, which corresponds to the operation of adjunction in the implication-space semantics. In this way, many occurrences of the positive and negative poles of different rational forms can form a unity: their combination can be enmattered, actualized, or particularized together. We can model such unities in implication-space semantics by implications; for implications are combinations of positive occurrences of the rational forms of their premises and negative occurrences of the rational forms of their conclusions. Thus, we can think of the combination of positive and negative poles of rational forms as itself being the occurrence of a rational form,

and we can think of the rational forms that occur in it as the forms whose positive and negative poles are combined in the larger occurrence.

For particular occurrences of rational forms, we can then think of the largest particular occurrence of a rational form of which the particular occurrence is a part as the unified constellation of occurrences of rational forms in which the rational forms are enmattered together. So, for each particular occurrence of a rational form, there is a particular unified constellation in which it occurs. There are no particular occurrences of rational forms that are not included in exactly one unified constellation of occurrences of rational forms. We call such a unified constellation to which occurrences of rational forms belong a “medium” for rational forms. Thus, a medium is a unified constellation in which poles of rational forms can occur or be enmattered together. (We have seen in the analytic telling of our story, that these media will turn out to be the subjects that hold positions in a discursive practice, and a world in which states obtain together. So, we will work towards an understanding of media as the positions of subjects in a discursive practice, on one side, and the world, on the other side.) If an occurrence of a rational form is enmattered in a particular medium, we say that the medium includes the occurrence of the rational form. A constellation of occurrences of rational forms that are not actually enmattered together but could be enmattered together is a merely possible medium. When the constellation of occurrences of rational forms that are a possible medium are enmattered together, this is an actual medium.

A third essential feature of rational forms is that combinations of their occurrences can be excluded or not. This corresponds to the partition of the space of implications into the excluded ones (the good ones) and all others (the bad ones). To put it differently, some occurrences of rational forms are compatible with each other and others are not. As a matter of terminology, we say that two occurrences, or combinations of occurrences, are incompatible or mutually exclusive if and only if their combination is excluded. Negative and positive occurrences of the same rational form are always incompatible. This is the sense in which the two poles of a rational form are opposed to each other, and this corresponds to the structural feature of Containment in the formal theories from previous chapters. (We have already seen in the analytic telling of our story that the nature of the exclusion relation can be normative or alethic, and we will return to this below. One of our goals is to understand this bifurcation between two kinds of modality from a synthetic perspective.) Notice that the relevant mutual exclusion relations can hold between particular (combinations of) positive or negative occurrences of rational forms within a single medium; this is the intra-medium aspect of incompatibility. However, there is also an inter-medium aspect of the incompatibility relation. We can formulate the difference thus:

**Intra-medium-conflict:** Incompatible occurrences of rational forms are present in one medium.

**Inter-medium-conflict:** Incompatible occurrences of rational forms are present in different media.

These two kinds of conflict between occurrences of rational forms are of the same generic kind: they are kinds of incompatible (positive or negative) occurrences of rational forms. They differ merely in whether the incompatible occurrences of rational forms are present in a single medium or are distributed over several media. For simplicity, we will usually think of merely two incompatible occurrences of rational forms and of at most two media in inter-medium-conflicts. In a case of inter-medium conflict, we will say that the two media disagree because they include incompatible occurrences of rational forms.<sup>2</sup>

We want to add a fourth and final essential feature of rational forms, namely that they are individuated by the incompatibility relations in which their positive and negative occurrences stand. That is, if the positive and negative occurrences of some rational form stand in all and only the incompatibility relations that the positive and negative occurrences of “another” rational form stand in, then these rational forms are identical. In other words, if there are two distinct rational forms, then there is some positive or negative occurrence of one of these rational forms that is compatible with something with which the positive or negative occurrence of the other rational form is not compatible. This is modal functionalism about rational forms: rational forms are individuated by the roles that their occurrences play in incompatibility relations. In implication-space semantics, this fourth essential feature of rational forms comes out in the fact that rational forms are, in effect, defined as equivalence classes with respect to exclusion relations (mediated by the notion of ranges of subjunctive robustness).

If rational forms are as we just described them, then we can use the following characterization as the starting point for our synthetic methodology:

- Divided Unities*      There are rational forms and their essence is that they are divided unities, in the sense that:
- (a) every rational form can occur in two different ways (poles), positively or negatively;
  - (b) such occurrences can be combined into larger unities, which occur together in media;

- (c) the occurrences can (and some do) stand in incompatibility relations to each other (for instance, occurrences of the two poles of any rational form are incompatible); and
- (d) rational forms are individuated by the incompatibility relations of their positive and negative occurrences.

It is worth noting that since incompatibility relations encode reason relations, clause (d) of Divided Unities implies that rational forms are individuated by the reason relations in which their occurrences stand. In other words, rational forms are roles that bearers of rational forms can play in reason relations: they are, as we said in Chapter Five, implicational roles or conceptual contents.

In the remainder of this epilogue, we want to sketch a way in which one may try to unfold and develop what is implicit in Divided Unities. Taking Divided Unities as our first principle, we will pursue a synthetic path back to the starting points of our investigation, namely the truth-maker theory of Chapter Four and the normative pragmatics of Chapters One to Three.

### **Ideal Occurrences of Rational Forms: The World**

We begin with clause (c) of Divided Unities, namely that positive and negative occurrences of rational forms can stand in incompatibility relations. In this section, we want to show that if we add an assumption, which we will call the “Rational Conflict Assumption,” to Divided Unities, then we can introduce a distinction between media that are like subjects who accept and reject claims and an ideal medium that can be understood as the world that these subjects represent, in the sense of answering to it for the correctness of their claims. We can thus arrive at the idea of the subject-object nexus. One way to understand our project in this section is as an attempt to answer the question: What do we need to add to Divided Unities in order to introduce the distinction between discursive acts of subjects, on one side, and worldly states of objects, on the other side? Our answer will be that we need add only the Rational Conflict Assumption. In the context of Divided Unities, the Rational Conflict Assumption is sufficient for the subject-object nexus to emerge, and it may or may not also be necessary.

We have said above that a medium is that within which a constellation of particular occurrences of rational forms is combined into a unity. And this is the force of clause (b) of Divided Unities.<sup>3</sup> When there are two media in which rational forms occur, then the two poles of one rational form may occur, one in each of these two media. In this case, the rational form occurs

in mutually exclusive ways in the two media, as is ensured by clause (c) of Divided Unities, which says that the two poles of the same rational form are always mutually exclusive. More generally, the occurrences of rational forms in two media may be incompatible, even when they are not the two poles of a single rational form. These are cases of inter-medium conflicts.

So far, our notion of incompatibility—that is, our notion of an exclusion of combinations of occurrences of rational forms—is merely a partition of all possible combinations of occurrences of rational forms into two sets, the excluded ones and all the other combinations. We have not said anything about what this partition means. What does it mean for occurrences of rational forms to be excluded? Or, equivalently, what does it mean for occurrences of rational forms to be incompatible? By using terms like “incompatible,” Divided Unities suggests that there is some kind of conflict or tension between incompatible occurrences of forms. How can we understand this tension or conflict?

An inter-medium conflict is, at a minimum, a disagreement, in the sense that neither of the two disagreeing media can include the incompatible occurrence of rational forms from the other medium, on pain of including within itself incompatible occurrences of rational forms. If the first medium includes a positive occurrence of a rational form, for instance, and the second medium includes a negative occurrence of the same rational form, then adding a negative occurrence of the rational form to the first medium yields a situation in which the combination of all occurrences of rational forms in the first medium is excluded. Let us call this “noncotenability.” Noncotenability is a rather weak notion of disagreement. In order to see this, let us distinguish it from two other kinds of disagreement<sup>4</sup>:

1. *Noncotenability*: One medium includes an occurrence of a positive or negative pole of a rational form and a second medium includes an occurrence of a positive or negative pole of a (possibly different) rational form, and the combination of the occurrence in the first medium and the occurrence in the second medium are incompatible.
2. *Proselytizing conflict*: From the perspective of each medium, the incompatible occurrence of rational forms in the other medium is incorrect.
3. *Rational conflict*: At most one—and sometimes exactly one—of the two incompatible occurrences of rational forms in the two disagreeing media is correct, in the sense that any positive (negative) occurrence of this rational form in any medium is correct if and only if the occurrence that is correct in the disagreement at issue is positive (negative).

As we have seen, the kind of inter-medium disagreement that we are considering gives rise to noncotenability. One may wonder, however,



whether there must also be inter-medium disagreements that are proselytizing conflicts or even rational conflicts. The notions of correctness that are operative in the definitions of proselytizing conflicts and rational conflicts are notions of the property of the occurrence of a rational form in virtue of which the conflict holds and that is the occurrence in the medium in favor of which the conflict is to be decided, whatever that property may turn out to be.

Here we want to introduce a strong and substantive assumption. The rest of this epilogue should be understood as conditional on this assumption. The assumption is that there are rational forms that underwrite the existence of rational conflicts between some possible media.

*Rational Conflict Assumption*

There are rational conflicts between possible media.

Let us use the term “objective rational form” for a rational form that is such that some possible media stand in a rational conflict because one medium includes a positive occurrence and the other medium includes a negative occurrence of the rational form at issue *and* exactly one of these occurrences of the form is correct.

The Rational Conflict Assumption is a strong assumption. If it is true, then there are objective rational forms, that is, rational form such that either the positive or the negative occurrence is correct, and this assessment of correctness carries over to any occurrence of that rational form in any other medium. It is the same standard of correctness that applies to all media that disagree about any given objective rational form. In this sense, the Rational Conflict Assumption implies that there is an objective standard of correctness for all occurrences of objective rational forms.<sup>5</sup>

The Rational Conflict Assumption allows us to introduce the notion of an ideal medium. This is the idea of a medium in which all and only objective rational forms occur, and all occurrences of objective rational forms in the medium are correct, that is, they agree with the objective standard of correctness. Thus, for each objective rational form the ideal medium includes either a positive or a negative occurrence and not both. The kind of occurrence (positive or negative) that is included in the ideal medium is the correct one. The ideal medium is the embodiment, in a medium, of the standard of correctness for occurrences of rational forms. It is the medium in which all objective rational conflicts are decided correctly; that is, the correct pole and only the correct pole of each objective rational form occurs in the ideal medium.

The ideal medium is unique, in the sense that although there could be several particular media that meet the definition of the ideal medium, they would all include all and only the same occurrences of the same poles of all

objective rational forms. Therefore, the ideal medium is unique as a kind of medium, or as a possible medium. The combination of occurrences of rational forms in the ideal medium is itself an occurrence of a rational form, by the combination mentioned in clause (b) of Divided Unities, and it is the same kind of occurrence of the same rational forms in all media that are ideal media, by clause (d) of Divided Unities. Thus, there is a unique kind of occurrence of a rational form that is the ideal medium (although there might be several particular media that instantiate this kind of occurrence). So, we are justified to talk about *the* ideal medium (as a kind of medium or a possible medium).

It is irrelevant to our present discussion whether anyone could, even in principle, decide a disagreement between media by determining what occurrences of rational forms are included in the ideal medium.

Since the ideal medium includes all and only the occurrences of objective rational forms that are correct, whether an occurrence of an objective rational form in any nonideal medium is correct varies with whether it matches the polarity of the occurrence of this rational form in the ideal medium. We can think of this matching as accuracy<sup>6</sup> and say: A positive occurrence of a rational form is *accurate* just in case the rational form occurs positively in the ideal medium. And a negative occurrence of a rational form is *accurate* just in case the rational form occurs negatively in the ideal medium. Thus, accuracy is a correspondence between the polarity of the occurrence of an objective rational form in some medium and the polarity of its occurrence in the ideal medium.

We can now introduce the notions of truth and falsity of rational forms in terms of the accuracy of positive and negative occurrences of these rational forms. While accuracy is a property of occurrences of poles of rational forms, truth is a property of rational forms themselves. We say that a rational form is *true* if and only if it is an objective rational form whose positive occurrence is accurate. And we say that a rational form is *false* if and only if it is an objective rational form whose negative occurrence is accurate.<sup>7</sup> To put it differently, true rational forms are those that occur positively in the ideal medium, and false rational forms are those that occur negatively in the ideal medium. Since rational forms are identical to propositional conceptual contents, we have accordingly introduced a notion of truth and falsity for propositional conceptual contents. Moreover, positive occurrences of true rational forms in nonideal media are true because the form occurs positively in the ideal medium, and occurrences of false rational forms in nonideal media are false because the form occurs negatively in the ideal medium. In this sense, the ideal medium is the standard of truth and falsity. A rational form that is true is true if and because it occurs positively in the ideal medium. And a rational form that is false is false if and because it occurs negatively in the ideal

medium. If what is represented is that which determines the truth or falsity of representations, then the ideal medium is what is represented by occurrences of objective rational forms in nonideal media. (This part of the synthetic telling of our story corresponds, in the analytic telling in the body of this work, to the discussion of representation at the start of Chapter Four.)

Let us use “the world” for the standard of truth and falsity, such that what is true is true because of what the world is like and what is false is false because of what the world is like. If what we said so far is correct, the world is the ideal medium. According to this way of using the term “world,” the world is the ideal medium in which all objective rational forms occur. So, the world is complete or maximal with respect to objective rational forms: every rational form occurs in the world either positively or negatively. And the world is consistent in the sense that the combination of occurrences of objective rational forms that occur in the world is not excluded; it is coherent. And if any objective rational form were to occur in the world in a way (positively or negatively) in which it does not already occur in the world, this would render the world incoherent (because it would require that the world includes a positive and also a negative occurrence of the same rational form). So, the world is a maximal coherent combination of occurrences of objective rational forms.<sup>8</sup>

The world is articulated by reason relations. That is, it is articulated by incompatibility relations that individuate the positive and negative poles of rational forms that occur in it. And we can also express this by saying that conceptual contents are enmattered in the world. (This is the conceptual realism that we endorsed in the Introduction and in Chapter Four. If we combine this with what we already know from the analytic telling of the story, we can say: What is and is not the case in the world is the same as what can be asserted or denied, what can be true or false. In the synthetic order of explanation, however, discursive acts and worldly states are introduced only in the next section.)

Let us say that a rational form “is the case” when it occurs positively in the world. So what can be the case or not are rational forms, and rational forms are the case if and only if they are true. It might seem that what is true and what makes something true are identical, thus yielding an identity theory of truth. However, truth is not an intrinsic feature of a rational form. Rather, what makes the rational form true is that it occurs positively in the world. So, what is the case and what is true are identical, but what makes something true is not what is the case (the rational form) but that it is the case (the positive occurrence of the rational form in the world). In this sense, truth is correspondence with what is the case.

To sum up, given Divided Unities and the Rational Conflict Assumption, we can arrive at the ideas of the world and of truth as correspondence with

the world via the idea of rational conflicts and objective rational forms. We started with the notion of rational forms provided by Divided Unities, and the Rational Conflict Assumption then implies that some rational forms are such that either their positive or their negative occurrences (and not both) are correct for any medium. The world is the kind of medium in which the correct poles of all and only these rational forms occur. Occurrences of rational forms in nonideal media are accurate just in case the world includes an occurrence of the same rational form with the same polarity (positive or negative). A rational form is true if and only if it occurs positively in the world.

### **The Pragmatic-Semantic Bifurcation Explained**

In the previous section, we have seen how Divided Unities and the Rational Conflict Assumption jointly yield the notions of a world and of truth as correspondence with what is the case in the world. Our topic in this section is how a bifurcation arises between the two approaches to content that we have used as our guides in previous chapters. Our goal is to chart a synthetic path to the distinction between discursive acts that are governed by a broadly normative kind of modality and worldly states that are governed by a broadly alethic kind of modality. According to the picture that will emerge below, the pragmatics-first approach to content aims to explain, in a deontic-normative metavocabulary, the exclusions among the occurrences of rational forms as discursive acts in nonideal media. The semantics-first approach to content aims to explain, in an alethic-modal metavocabulary, the exclusions among occurrences of rational forms as worldly states in the ideal medium, which is the world.

To see how the bifurcation between the two approaches arises in a synthetic way from the forgoing developments, it is helpful to notice two points. First, the assessment of occurrences of rational forms in the world as accurate is trivial. There is, by the very nature of the world as the ideal medium, no room for inaccuracy in the occurrences of rational forms in the world. Thus, although the world can serve as the standard for normative assessments in terms of accuracy of other media, such assessments do not apply to the world in any nontrivial way. So, an understanding of incompatibility relations as normative relations whose ultimate standard of assessment is agreement with the world does not apply (nontrivially) to the world itself.

Second, the world does not include any occurrences of rational forms that are incompatible with each other (within the context of the other occurrences of rational forms in the world). For, if the occurrences of rational forms in virtue of which two media disagree could all agree with the ideal medium (against the background of the other occurrences of

rational forms in the ideal medium), then agreement with the ideal medium could not serve as a standard for deciding the disagreement between the disagreeing media.<sup>9</sup> To see this, suppose for reductio that the ideal medium can include occurrences of objective rational forms that are mutually incompatible. Then two media could disagree in virtue of the first including a particular (positive or negative) occurrence of some objective rational form and the second one including a particular (positive or negative) occurrence of some objective rational form, and they could nevertheless both agree with the ideal medium. Hence, the ideal medium could not serve as the standard by which the rational disagreement between the two media is decided, which contradicts the definition of the ideal medium. So all the occurrences of rational forms in the ideal medium are compatible with each other; the combination of occurrences of rational forms in the ideal medium is not excluded. If we try to think of incompatibility relations as normative in a sense such that a medium including incompatible occurrences of rational forms constitutes some kind of impropriety, the world cannot be guilty of such improprieties. The world cannot violate this normative standard.

We can distinguish two broad genera of incompatibility relations, namely incompatibility relations such that it is possible for incompatible relata of the relation to be actual and those for which this is not the case. We call the first kind of incompatibility relations “broadly normative” incompatibility relations and the second kind “broadly alethic” incompatibility relations.<sup>10</sup> Broadly normative incompatibility relations allow for improprieties in the sense of allowing for the actuality of incompatible items. Broadly alethic incompatibility relations do not allow for such improprieties. In this sense, normative incompatibility relations can be violated and alethic incompatibility relations cannot be violated. We can summarize this distinction as follows.

#### *Genera of Incompatibility*

An incompatibility relation is broadly alethic if and only if it is impossible that incompatible relata of this relation are actual, and it is broadly normative otherwise.

The two points we have made above imply that the incompatibility relations that hold among potential occurrences of rational forms in the ideal medium—the world—are of a broadly alethic and not a broadly normative kind. For, the world does not include mutually incompatible occurrences of rational forms.

It makes sense to call the kind of incompatibility that we find in the world broadly alethic. For, if the combination of the positive occurrences of two forms is excluded, then the two rational forms cannot be true

together. If the combination of the negative occurrences of two forms is excluded, then the two rational forms cannot be false together. And if the negative occurrence of one form excludes the positive occurrence of another, it cannot be the case that the first is false and the second true. Thus the incompatibility relation between positive (or negative) occurrences of rational forms manifests itself in the world as the noncompossibility of the truth (or falsity) of these rational forms. In virtue of the world being the ideal medium, the excluded combinations of occurrences of rational forms cannot occur in the world.

Let us turn to the incompatibility relations among occurrences of rational forms in nonideal media. The exclusion relations between occurrences of rational forms in nonideal media are of the broadly normative and not the broadly alethic kind. For, nonideal media can include actual occurrences of rational forms that are mutually incompatible. Nothing in what we said prevents, for instance, a nonideal medium that includes a positive and also a negative occurrence of a single rational form. And such occurrences of rational forms are incompatible—indeed, they are incompatible against any background of further occurrences of rational forms.<sup>11</sup> Similarly, different nonideal media can include occurrences of rational forms that are incompatible. When this happens, at least one of the occurrences of a rational form is incorrect or mistaken, according to the standard provided by the ideal medium. It is characteristic of normative assessments to underwrite the possibility of errors. When two things are alethically incompatible, however, they cannot both be actual. Therefore, the incompatibility relations between occurrences of rational forms in a single nonideal medium and also incompatibilities between different media are not broadly alethic but broadly normative incompatibilities.

The upshot of what we just said is that the incompatibility relations in the world are broadly alethic-modal relations and the incompatibility relations within and among nonideal media are broadly normative-modal relations. These incompatibility relations among rational forms (determining assessments of the coherence of constellations of occurrences of those forms) are, however, isomorphic. Indeed, by clause (d) of Divided Unities, they must be isomorphic in order for the same rational forms to occur in the different media. (This isomorphism was the main result of Chapter Four, in the analytic telling of our story.)

Let us call occurrences of rational forms in nonideal media “discursive acts.” And let us use “acceptance” and “rejection” for the positive and negative ways, respectively, in which rational forms occur in nonideal media. Furthermore, let us call occurrences of rational forms in the ideal medium of the world “states.” And let us use “truth-maker” and “falsity-maker” for the positive and negative ways, respectively, in which rational forms occur in the ideal medium, that is, in the world. So every discursive

act is an acceptance or rejection of a rational form (and perhaps also an acceptance and rejection of other rational forms as well), and every state is a truth-maker or a falsity-maker of a rational form (and perhaps also a truth-maker or a falsity-maker of other rational forms as well).

We have now arrived at the bifurcation between discursive acts that are governed by broadly normative incompatibility relations, and worldly states that are governed by broadly alethic incompatibility relations. Media in which rational forms occur in discursive acts are positions or views of subjects (nonideal media), and the medium in which rational forms occur in worldly states is the world (the ideal medium). Thus, there are several nonideal media in which rational forms occur in discursive acts governed by normative incompatibilities, and one ideal kind of medium in which rational forms occur in worldly states governed by alethic incompatibility relations.

The normative bilateralist interpretation of sequent calculi offers a vocabulary for specifying which combinations of acceptances and rejections of rational forms are normatively excluded. (This was the topic of Chapter Three, in the analytic telling of our story.) The modal bilateralist interpretation of truth-maker semantics offers a vocabulary for specifying which combinations of truth-makers and falsity-makers are alethic-modally excluded. (This was the topic of Chapter Four, in the analytic telling of our story.) We can now see the first as specifying a theory of occurrences of rational forms in nonideal media, while we can see the second as specifying a theory of occurrences of rational forms in the ideal medium. The isomorphism between the two theories is the isomorphism that must hold for representation and inter-medium disagreement to be possible.

Finally, we can say that in nonideal media, what it means for the combination of a positive occurrence of a rational form and a negative occurrence of another rational form to be excluded is that if a nonideal medium (a discursive subject) is committed to accepting the first rational form, then the nonideal medium cannot be entitled to reject the second rational form. And what it means for a combination of positive occurrences of two rational forms to be excluded is that a nonideal medium (a discursive subject) cannot be entitled to accept both rational forms. In the first case, the first rational form is a reason for the second. And in the second case, the first rational form is a reason against the second. These are the reason relations of being a reason for and being a reason against that, according to the normative pragmatics of Chapter One, constrain practices of giving and asking for reasons. We have accordingly reached the end point of the synthetic telling of our story, which was the starting point of the analytic telling of our story.

This concludes our sketch of a synthetic path connecting the main ideas of this book. Let us sum up. If, in the context of the structure of rational forms we have called “Divided Unities” we make the Rational Conflict Assumption, then we can define the notion of an ideal medium, which embodies the standard of correctness that makes the most demanding kind of rational conflicts possible. The ideal medium is that in virtue of which what we assert or deny is true or false; it is the world. Since the world, in virtue of being the ideal medium, cannot include mutually incompatible occurrences of rational forms, the exclusion relations among potential occurrences of rational forms in the world cannot be broadly normative exclusion relations, but must be broadly alethic exclusion relations. Normative standards require the possibility of errors or failures to accord with those standards. In contrast to this, the exclusion relation among occurrences of rational forms in nonideal media are broadly normative exclusion relations because nonideal media can include incompatible occurrences of rational forms. We can accordingly divide media for the occurrences of rational forms into two broad functional classes, depending on the general features of the notion of incompatibility they exhibit. Those two broad functional classes are the modal genera comprising alethic modal incompatibility and normative modality (or at least, genera whose paradigmatic species are those two kinds). These are the more specific structures characteristic of the two sides of the intentional nexus: the subjective and the objective. These are the species we began by investigating, the first in normative pragmatic metavocabularies for reason relations, the second in truth-maker semantic metavocabularies for reason relations.

## **Conclusion**

This highly speculative epilogue sketched a line of thought that is not an essential part of the project of this book. Our aim in this epilogue was not to convince skeptical readers of the viability of thinking about the world as the ideal medium for occurrences of rational forms, or of the possibility of deducing the subject-object nexus from the fundamental structure of rational forms. Rather, our aim was to illustrate what a synthetic telling of the story that we present in the rest of this book might look like.

If one wants to tell this story in a way that follows a synthetic methodology, one must start from the highest, most abstract principles. We suggested that Divided Unities might be such a principle. To start with Divided Unities is, in effect, a way to begin our story with the abstract structure of implication-space semantics. Following a synthetic methodology, one could then try to unfold and develop what is implicitly contained in the most abstract principles. We suggested that Divided



Unities, when combined with the Rational Conflict Assumption, implicitly contains the ideas of an ideal medium that is the world, and the division between alethic and normative kinds of incompatibility relations as the ways in which the incompatibility relations mentioned in Divided Unities manifest themselves in the ideal medium and in nonideal media, respectively. To put it differently, by unfolding and developing the notions of incompatibility and unity, a bifurcation emerges between two kinds of media in which rational forms can be enmattered: an ideal medium in which rational forms are enmattered in worldly states and nonideal media in which rational forms are enmattered in discursive acts. This bifurcation then gives rise to a distinction between two kinds of incompatibility relations, between two kinds of modality: alethic and normative modality. In this way, we came back to the initial starting point of this book: the pragmatics of normative bilateralism.

In this synthetic telling of our story, we had to assume that the notions of incompatibility and unity that occur in Divided Unities (and, less directly, in the implication-space semantics from Chapter Five) are not barren formal notions but rather implicitly contain fruitful philosophical ideas. Moreover, we relied on the Rational Conflict Assumption. We have used this assumption in order to illustrate what a synthetic telling of our story might look like, and we do not claim that it is true. We provide this sketch of a potential synthetic telling of our story because it seems to us that it is difficult fully to appreciate many of the details of the analytic telling of our story without having at least a rough idea of what a synthetic telling of that story might look like. We hope that this epilogue provides such a sketch, despite its speculative, optional, and tentative nature.

## Notes

- 1 We disagree regarding the plausibility of the Rational Conflict Assumption that we use in this epilogue. While Hlobil thinks that this assumption can be justified (although we do not attempt to do so here), Brandom is more skeptical.
- 2 We suppress some details about the formal structure of rational forms. For instance, the formal fact that the monoidal operation is associative and commutative reflects the assumption that the order and grouping of the combination of occurrences of rational forms does not matter. And that there is an identity element allows us to encode whether a combination of occurrences of rational forms is excluded in the range of subjunctive robustness of that combination. Thus, when we define rational forms in terms of ranges of subjunctive robustness, it becomes essential to a rational form whether its occurrences are excluded. We will mostly suppress such details in the remainder of this chapter.
- 3 From our analytic telling of the story, we already know that the kind of unity that media have will be the unity of positions of discursive subjects, on one side, and the unity of the world, on the other side. Kantians might want to explain

both kinds of unity in terms of the synthetic unity of apperception. We here merely presuppose that media are unified wholes without offering any account of what unifies them.

- 4 This classification is inspired by, but different from, that offered by MacFarlane (2014), who distinguishes practical and doxastic noncotenability, preclusion of joint accuracy, and preclusion of joint reflexive accuracy. Since we are only interested in occurrences of rational forms and do not specify these further, the difference between practical and doxastic noncotenability does not apply. Our proselytizing conflict corresponds roughly to MacFarlane's preclusion of joint accuracy. And our rational conflict corresponds roughly to MacFarlane's preclusion of joint reflexive accuracy. MacFarlane's notions are defined using technical terms that we do not want to take on board.
- 5 One thing to mean by "anti-realism," in the current context, is the thesis that there are no rational conflicts between media. Anti-realism in this sense is, at an abstract level, the kind of view that Huw Price (2003) characterizes as admitting a subjective assertability norm (sincerity) and a norm of personal warranted assertability (justification) but not a third norm of truth. Translating these norms into our setting, we could say that the sincerity norm says that media should not display occurrences of rational forms that do not actually occur in them, and the justification norm says that media should not include the occurrence of a positive (negative) pole of a rational form if they do not also include occurrences of rational forms that are incompatible with the opposite negative (positive) pole of the first rational form. The truth norm would say that a medium should include an occurrence of an objective rational form only if it meets the objective standard of correctness, that is, only if it would agree with the correct side in a rational conflict.  
Price writes: "The important point is that this [third norm] provides a norm of assertion which we take it that a speaker may fail to meet, even if she does meet norms of subjective assertability and (personal) warranted assertability. We are prepared to make the judgment that a speaker is incorrect, or mistaken, in this sense, simply on the basis that we are prepared to make a contrary assertion; in advance, in other words, of any judgment that she fails to meet one or other of the two weaker norms" (Price, 2003, 176). Price argues that we need the third norm in order to make possible a discursive practice with the right kind of friction. Price's arguments for the necessity of the third norm and, hence, against anti-realism strike us as supporting the Rational Conflict Assumption—although perhaps not decisively.
- 6 In order to avoid misunderstandings, we should look ahead and point out that we use "accuracy" to talk about the correctness of the poles of rational forms, and we use "truth" to talk about the correctness of rational forms themselves. This differs from how the term "accuracy" is sometimes used by philosophers. Sometimes accuracy is treated as gradable, in contrast to truth. Sometimes it is meant to apply to states of creatures that do not possess concepts. Neither of these contrasts is part of our notion of accuracy.
- 7 The way in which we introduce the notions of truth and falsity here is closely related to the way in which Restall (2009) introduces truth-values. Restall first

introduces the notion of a limit position, which is a lot like an invalid (“out of bounds”) sequent in which every sentence occurs either on the left or on the right. Restall, in effect, says that we can think of truth (relative to a limit position) as the status that a sentence has when it occurs on the left in a limit position. And falsity (relative to a limit position) is the status that a sentence has when it occurs on the right in a limit position. To see the similarity to our notions of truth and falsity, notice that one can think of the ideal medium as characterized by an invalid sequent in which, for every objective rational form, a sentence that expresses that rational form occurs either on the left or on the right side, that is, the sentence occurs either as a premise (positively) or as a conclusion (negatively). Thus, the ideal medium plays a role that is very similar to Restall’s limit position. Moreover, we say that a rational form is true if it occurs positively in the ideal medium, and it is false if it occurs negatively in the ideal medium. In contrast to Restall, however, we have not imposed structural principles like Weakening or Cut. And there may be rational forms (namely those that are not objective rational forms) that occur neither positively nor negatively in the ideal medium. Nevertheless, it may be helpful to view our strategy here as similar to what Restall does.

- 8 In this respect, the world as an ideal medium is similar to worlds in possible world semantics, where worlds are sometimes understood as maximal consistent sets of propositions.
- 9 There can be disagreements between media such that there is noncotenability but there is no rational conflict because the incompatibility between the occurrences of rational forms in virtue of which the two media disagree is cured by the addition of other occurrences of rational forms in the ideal medium. In this sense, there may be no rational conflict even though the occurrences of rational forms that are incompatible in two media are the kind of occurrences of rational form that can stand in rational conflicts. This happens when the disagreement is merely apparent because the occurrences of rational forms do not exclude each other against the background of the occurrences of rational forms in the ideal medium. Thus there are, merely apparent disagreements; and there might not be any way for us to find out whether a disagreement is merely apparent, in this sense, or genuine. The converse is also possible. That is, there may be occurrences of rational forms that are compatible relative to the other occurrences in their respective media but are incompatible relative to the occurrences of rational forms in the ideal medium. We may call these “masked rational disagreements.” And again there might be no way for us to find out whether an apparent agreement is really a masked rational disagreement. These possibilities are consequences of the fact that we allow reason relations to be open reason relations and, hence, nonmonotonic. Such complications are ignored in the body of this chapter.
- 10 In terms familiar from modal logic, our distinction corresponds to modalities for which the modal axiom called “M” or “T” (which says:  $\Box\phi \rightarrow \phi$ ) holds and those for which it fails.
- 11 This follows from clause (c) of Divided Unities, and it corresponds to the formal principle of Containment in the setting of the current discussion.