

Holism, Communication, and the Emergence of Public Meaning: Lessons from an Economic Analogy

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Abstract Holistic accounts of meaning normally incorporate a subjective dimension that invites the criticism that they make communication impossible, for speakers are bound to differ in ways the accounts take to be relevant to meaning, and holism generalises any difference over some words to a difference about all, and this seems incompatible with the idea that successful communication requires mutual understanding. I defend holism about meaning from this criticism. I argue that the same combination of properties (subjective origins of value, holism among values, and ultimate publicity of value) is exhibited by monetary value and take the emergence of equilibrium prices as a model for the emergence of public meanings.

Keywords Semantic holism · Public language · Communication

Holism and the Problem of Communication

Varieties of Holism

What is a *holistic* theory of meaning? There are several proposals (for instance, Peacocke 1997; Pagin 2006; Devitt 1993; Fodor and Lepore 1992). At its core, it seems it should be a theory of meaning that is holistic or on which meaning is holistic, and where its being holistic consists in the fact that there are constraints on either the assignment of meaning to any one word, or alternatively simply constraints on the meaning of any one word, that arise because of a reference to or an obligation to take into account (somehow) a totality of other words.

This specification of the topic keeps to the usage of most writers on this topic. For instance, Christopher Peacocke describes meaning holism as the view that,

The meaning of an expression depends constitutively on its relations to all other expressions in the language, where these relations may need to take into

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account such facts about the use of these other expressions as their relations to the non-linguistic world, to action and to perception (1997, p.227).

Peter Pagin describes meaning holism as

the thesis that what a linguistic expression means depends on its relations to many or all other expressions within the same totality (2006, p. 213).

And Michael Devitt, takes meaning holism to be

the doctrine that all of the inferential properties of an expression constitute its meaning (1993, p. 281).

Jerry Fodor and Ernie Lepore, in contrast, interpret meaning holism entirely differently. They define a second order property of *being anatomic*, and say that a property is anatomic if nothing can have that property unless another thing has it too (Fodor and Lepore 1992, p.1). For example, *being a sibling* is anatomic because for one thing to be a sibling, something else must be a sibling too. This differs from *being a brother* or *being a sister*, which though likewise relational, do not necessitate the possession of that very property by anything else. On their usage, a property is “holistic” if it is very anatomic (though they do not say how anatomic something must be to be holistic). Here there is among other things, no reference to a totality of anything. Unlike the other proposals, it also makes the issue of meaning holism depend on the number of words in a language, since if there are not sufficiently many words *being a word* will not be holistic even if it is anatomic.¹ Nevertheless a lot of what they say about holism in their sense is relevant to the consideration of holism. For instance, they particularly press Dummett’s possibility of communication objection to holism to be examined below (Fodor and Lepore 1992, p. 8 citing Dummett 1981, p. 599).

Within the conceptual space characterised by the very general statement of meaning holism given above there seems to be room for a number of options. For instance, there is an issue as to the scope of the relevant totality. Is the meaning of a word constrained through being dependent “on its relations to *all other expressions* in the language” (as in Peacocke’s definition) or because it depends on “all of the [expression’s] inferential properties” i.e. on all its relations to other expressions (as in Devitt’s definition)? Call these perfective and imperfective holisms respectively. The idea behind these labels is that where the word stands in a relationship to all the rest of a language, as in Peacocke’s definition, the language has to be finished or complete for an expression to have a determinate meaning. In a sense, the word means that because of its relationship(s) to *them* (the rest of the language). But new words could be added to a language—though not one at a time!—without its ceasing to be holistic in Devitt’s sense, and without the meanings of the earlier words needing to change to accommodate the new entrants (provided the old words remained materially² inferentially unrelated to the new

¹ In contrast, holism as the others use the term at least allows for a kind of vacuous case where there is a language with only one word and its meaning depends on itself.

² I am grateful to a reviewer for noting that the qualification ‘materially’ is necessary since new vocabulary would certainly be logically inferentially related to old vocabulary. For example, a conjunction containing old and new vocabulary would entail either conjunct.

words). We can also ask whether the dependence is tied to the whole taken collectively (to the collective jointly) or distributively (to each element individually)? For instance, one version of meaning holism is what Peter Pagin calls ‘total pair holism’ (p. 215) where the meanings of any two expressions in a language are mutually interdependent. Pagin’s total pair holism is a distributive perfective holism.³

With these distinctions in mind, who is a meaning holist? Robert Brandom is a meaning holist of the distributive imperfective variety, for he understands meaning in terms of inferential roles, and explicitly refrains from privileging a special set of meaning constituting inferences (1994, p. 634). Donald Davidson and WVO Quine seem to be perfective, collective holists. The route to holism usually attributed to Quine is the combination of verificationism as a doctrine about meaning and confirmation holism (Devitt 1993, p. 285; Pagin 2006, p. 229). Verificationism ties the meaning of a sentence to its (method of) empirical confirmation, and if, as Quine asserts in the closing stages of “Two Dogmas of Empiricism (1951),” the unit of empirical significance is the whole of science, then it is only the whole of scientific theory that is properly said to have meaning. Words and sentences are only derivatively meaningful through reference to this whole. Davidson gives a classic example of the case where meaning is holistic because the theory of meaning is. For him, all there is to meaning is what can be obtained through methodologically correct interpretation through exploiting a theory of truth and theories of truth are confirmed as wholes, not through the piece-meal assessment of their results. On his view of the evidence for a theory of truth, we cannot tell whether individual T-sentences (the products of a theory of truth) serve the purposes of interpretation “...if we look at the T-sentences in isolation. But the hope is that by putting appropriate formal and empirical restrictions on the theory as a whole, individual T-sentences will in fact serve to yield interpretations.” (1984, p. 134) His aim is thus to have “a strong theory weakly supported” but at a “potential infinity of points” (1984, p. 225). The meanings of individual words and sentences derive from and are dependent on the whole theory. This is (perfective) collective holism.

Finally, there are various more specific interpretations of the constraints on meaning. The terminology of “constraints on meaning” is Pagin’s (2006) and his essay is particularly illuminating on this issue. Putting it this way allows one to cover various views on the mechanisms that underlie the holistic dependence relations. Meaning is holistic on Davidson’s theory because theories of truth have to be. So the constraints are constraints on interpretation. Contrast this with, say, Brandom’s position where it is inferential connections between doxastic commit-

³ People sometimes draw a related distinction between global and local varieties of holism. It seems to be Peacocke’s view (p. 244) that local holisms obtain when there are sets of words whose meanings can only be grasped in conjunction with each other. The holism is local as opposed to global because the relevant totality here is (quite a bit?) less than the largest available. For Peacocke, the vocabularies of places and spatial relationships, or of mass and force, or of meaning and belief, each provide examples of local (perfective) holism. A corresponding local imperfective holism would hold that all of some of a word’s inferential relations to other words are constitutive of its meaning. All conceptual role semantics that admit an analytic-synthetic distinction would qualify as these. This ‘local imperfective holism’ is just the same as what Devitt calls ‘localism’ and I think his terminology is preferable.

ments that are said to be meaning constituting. Pagin objects to this way of speaking, because he cannot see how inferences could precede the meaningfulness of their relata (2006, p. 219). In his view, it makes more sense to think of expressions as having non-semantic properties, and standing to each other in non-semantic relationships, and to see the semantic properties and relationships arising out of these in some way. Then we can see the holism of meaning as inherited from the holistic disposition of the sub-semantic base. Indeed, the disagreement with Brandom over how to describe the role played by inference notwithstanding, Brandom (1994) does indeed view the inferential connections as founded on pragmatic (i.e. non-semantic) attitudes of speakers (in taking certain sentences to come with commitments to others and so on. See especially 1994, p. 133/4).

The Subjective Nature of Meaning and the Communication Problem

While it is not part of the definition of holism, there is one feature all contemporary versions of holism seem to have in common: As well as being holistic in constitution, they all take meaning to be *subjectively* constituted, in that they take it to depend on factors that do not have to but very often, if not always, do vary between subjects. For example, according to Brandom's inferential role account, the relevant inferential role connections are those that speakers endorse, i.e. *take* to be valid.⁴ Elsewhere, he speaks of the deontic statuses of commitment and entitlement, central to his explanation of linguistic practice, being instituted by the attitudes of scorekeepers. Furthermore, the interdependence of meaning and belief is a central feature of the translational or interpretational accounts of Quine and Davidson (think specifically of the attitude of believing-true or holding-true a sentence; Davidson 1984, p. 135, p. 162 and others). Attitudes, endorsements, beliefs figure crucially in these accounts of the foundations of linguistic behaviour and they are veritable paradigms of the subjective.

This combination of subjectivity and holism, however, seems to present a formidable problem for our understanding of communication, as Dummett may have been the first to observe.⁵ Assume as the holist does that meaning is holistically determined and partly subjective. Assume also that different speakers will differ in ways relevant to the determination of meanings. This may be because they have different beliefs, or because they endorse different inferences. Finally assume that communication requires a mutual shared understanding of the medium of communication (the meanings of the utterances). It now appears that communication is impossible for given the subjective differences between speakers, and given that subjective differences are relevant to meaning, and given the holist claim that a difference in the meaning of one word has consequences for all the words in the language, the mutual understanding required for communication would appear to be ruled out.

⁴ 'Valid' in these contexts means 'commitment or entitlement preserving,' not simply logically valid (see Brandom 1994, chapter 2).

⁵ Dummett (1981) pp. 598–560. Also known as the problem of 'total change' in Pagin 2006, and the problem of 'meaning instability' in Lormand (1996).

Clearly only a perfective holist (and an imperfective holist who accepts as a matter of fact that all words in a language are connected in the relevant way) will accept the commitment here attributed to the holist that a difference of meaning in any one word entails a difference in the meaning of all. But that still includes Quine and Davidson.⁶ Davidson ingeniously turns this argument on its head to argue against the possibility of incommensurable conceptual schemes. He holds that “successful communication proves the existence of a shared, and largely true, view of the world.” (1984, p. 201). For him, the fact of communication puts an upper bound on the amount of intersubjective difference of opinion we can make sense of. One philosopher’s *modus ponens* is another’s *modus tollens*, as they say. Those who feel the force of the communication problem need something more convincing than Davidson’s inversion, so I want to outline a response to it in what follows.

I presented the problem in an informal way so as to emphasise its generality. It is given sharper expression by Peter Pagin with regard to inferential role theories (where it is also compared with the problem of total change: the objection that adding a new word to a language changes the meaning of all older words). Pagin thinks the holist should claim at most that meaning supervenes on inferential role, rather than identifying meanings with inferential roles (2006, pp. 225–227). Opting for supervenience is opting for a many-one relationship between non-semantic properties and relations and the semantic properties that are supposed to emerge from them. This neatly blocks the objection because it no longer follows from the fact that the subjective and holistically determined relations are different that the meanings are different (because many inferential roles could express the same meaning). Nonetheless, the inferentialist holist cannot afford to be satisfied with this technical solution because it solves the problem only by raising the different problem of how semantic properties are individuated. We would know there is a many-one relation between, e.g. inferential roles and meanings, but not why this inferential role gives this meaning and this different inferential role also gives this meaning. There must be some further fact not so far made explicit that would complete the explanation, but then that deflates the significance of inferential role as an account of meaning. Furthermore, the supervenience solution is insufficiently ambitious, because at most it provides the holist with an account of how communication is (barely) possible. It doesn’t itself give any reason to think communication at all likely. But we are surrounded by communication. It happens all the time. We want more reassurance from the holist that this isn’t just a chance affair because the non-semantic relationships underlying the vocabularies of speaker and hearer just happened to give rise to the same meanings.

The proper response to the communication problem is to see the mutual understanding of the speaker’s words as something that arises as a consequence of communication rather than a presupposition or prerequisite for it. I hope to show how this inversion of the logical priorities is possible by exposing the dynamic, dialogical dimension of communication. Instead of comparing the vocabularies of speaker and audience at a moment in time, we need to broaden our remit to look at how speakers’ vocabularies develop over time. What we will see is broad

⁶ And possibly Brandom too. He certainly regards securing the possibility of communication as a key criterion of adequacy for his theory and returns to it again and again. See especially p. 477ff and p. 633ff.

convergence and agreement in use as a result of speakers' efforts to interpret each other. That is the goal. I propose to argue for it by way of an interesting comparison with the economic concept of *price*. There are good *prima facie* reasons to think the notion of monetary value has the three attributes (being holistically determined, subjectively determined and ultimately shared) that generate the communication problem. But there does not seem to be a corresponding problem of exchange. It is instructive to see why.

The Analogy Between Meaning and Price

Price is holistic, subjective and ultimately public. Taking first the issue of subjectivity. One of the planks of economic theory is the recognition that prices of goods are responsive to changes in demand. The demand function for any good states the quantity of that good that consumers wish to purchase at any given price. The demand function itself can change as a result of various factors including the price of related goods (complementary goods as well as alternative substitutes), consumer disposable income and personal tastes. Any first-year economics textbook will furnish half a dozen examples to demonstrate the point. For example, the fashion for the mini skirt apparently reduced the demand for textile material, and the emphasis on health and fitness has increased the demand for health foods and sports facilities and reduced the demand for cream cakes, butter, and cigarettes (Begg et al. 2005, p. 34). Even where the goods are necessities, such as food and shelter etc, there is still enormous scope for subjective input into how these needs are met as the preceding examples show. We cannot say that there really is some inherent, objective value that a television, or a 5g lump of gold, or a packet of cigarettes is truly worth—not if we are talking about economic value at least. This can perhaps most easily be seen when goods themselves assume the role of currencies as cigarettes sometimes have (Radford 1945). Price is, as Brandom says about meaning, instituted by the attitudes of economic agents, though this is not to deny that you can say interesting general things about what happens to price in conditions of scarcity and so on.

It is holistic in the perfective collective ways distinguished earlier, which is to say that the price of any good depends on the price of the totality of the others taken jointly.⁷ Obviously there are some price relationships which seem to be more closely connected than others, for instance the price of oil and the price of cars are presumably more closely related than the prices of strawberries and hairdryers. But real prices are relative prices (Begg et al. 2005, p. 19). What something really costs, as opposed to the nominal price on the ticket, depends on the prices of everything else, hence the need for devices like the retail price index to keep track of the relative

⁷ This is explicit in the formal economic proofs of a general market equilibrium, where market prices are vectors in n -dimensional space (where n is the number of goods). The crucial part of that proof employs a price adjustment function incorporating an excess demand function on prices. It is shown that the price adjustment function has a fixed point where the process of adjusting prices to excess demand stops, demand is satisfied, and the market clears. The process is holistic in the collective sense because excess demand is a function of general prices and the prices of all goods are components (dimensions) of these general prices. See Starr 1997, chapter 1 for an overview of the equilibrium proof.

changes in price.⁸ For instance, the average price of a UK house in 1963 was £3,100, while in 2004 it was £180,000. But they are not really 58 times as expensive nowadays. The real increase is more like a fourfold one and the difference in nominal values is mostly due to inflation. Televisions have become cheaper in real terms over the past 20 years, because their price relative to other things has changed (both examples from Begg et al. 2005, p. 19).

Actually, there is another traditional notion of the real price of a thing, namely its cost in labour. Adam Smith said “the real price of every thing, what every thing costs to the man who wants to acquire it, is the toil and trouble of acquiring it” (Smith 1976, p. 47, Bk. I, Chapter V, Section 2). Let me point out first that this is a subjective notion. The productive power of labour certainly varies from person to person. Bigger and stronger men than I need to labour less to change the car tyre, for example. Let us grant the point that the cost in labour of one thing does not of itself bear on the cost in labour of anything else. But these prices are individual prices not *market* prices, for one thing, and in any case once people start bartering with each other these labour costs do start to exhibit some degree of interdependence as I argue below.

Finally price is public. In a competitive economy producers and consumers are all considered to be *price takers*, that is, their own individual supply and demand decisions do not and cannot affect the market price. A competitive producer can sell as much as they want at the market price, but will not be able to sell anything at a higher price because consumers will buy elsewhere. The market price thus has an independence from the decisions of buyers and sellers, which led Kenneth Arrow (1959) to talk about a “logical gap in the usual formulations of the theory of the perfectly competitive economy” (p. 41). Consumers and producers decide whether to buy or sell based on the prices of goods. But who decides what the prices of the goods will be? Corresponding to the third, shared mutual understanding condition on communication for meaning, there is publicity of price. It is the same for everyone (in a perfectly competitive economy at least!).

The economic case thus presents the same combination of properties that is thought to be fatal to a holistic account of communication. But we obviously do not have a corresponding problem of exchange. The informal analogy itself already shows the original argument cannot have been sound, but it is worth carrying it further to try to understand how communication works in a holistic setting.

General Linguistic Equilibrium

Economists call the condition where supply equals demand across all goods a general equilibrium, and the prices of those goods general equilibrium prices. And thanks to the efforts of Arrow, Debreu, Schaff and others (for references see Starr 1997), the mathematics of general equilibrium is well understood. The proof of a general equilibrium proceeds by defining to begin with an excess demand function

⁸ Do not be misled by the fact that the retail price index merely tracks the prices of a small basket of goods. This is a concession to the need to have a tractable measurement of price change. It does not mean prices are changing relative only to the goods in the RPI basket. Prices are changing relative to the goods in the RPI basket, but this is merely an indication of their change in relation to everything.

which states how much demand for every good is unfilled at a given set of prices for all goods. This excess demand function is incorporated into a price adjustment function (from prices into prices). Prices are adjusted to reduce excess demand. It is shown that the price adjustment function has a fixed point where excess demand is zero. At this point the process of adjusting prices stops and the market clears. Unfortunately, I do not think it is possible to borrow the economic proof wholesale and argue by formal analogy that there must be a point, even as an ideal, where the language market clears and the speakers' and audiences' interpretations of utterances are in complete accord. The economic proof uses real numbers to represent both prices and the degree to which prices are disordered (by which I mean the level of unsatisfied demand). I cannot at this point see a handy way of representing meanings and the degree of disagreement about meaning (i.e. misunderstanding) as real numbers, so in what follows I try to informally sketch the basis of the analogy.⁹

Over the next few paragraphs, I give a sort of philosophical 'just-so' story of economic processes. As mentioned above, the economist's account of how supply and demand determine market price is pretty well developed (e.g. see Starr 1997). The dividend of taking an economic platitude as a philosophic puzzle is a better handle on the genesis of meaning. So the philosophical question is how do we get something like a public value out of something private? Holism is not the most puzzling property in this triumvirate. It is the other two that should puzzle us.

To begin with let us consider what would be the economic analogue of the problem of communication. It would seem to be the supposed impossibility of exchanging goods (or services) because the barterers could not take the objects of exchange to have the same (economic) value. I don't think this (pseudo-) problem is as silly as it sounds. Barter isn't just mutual gift-giving, which is what you would have if barter were just the passing back and forth of objects that were of incommensurable values to the traders.¹⁰

Suppose the objects were of essentially private value to the traders. In this we could follow Adam Smith and take the ordinary real cost of a good to anyone to be the labour it would take them to produce it themselves (Book I, Chapter V). There is no measure in A-hours for how long it takes B to paint the fence, or suppose it is zero A-hours for the things B does and infinite A-hours for the things B does not do. Call these essentially private measures of value A-values, B-values, C-values etc, for traders A, B, C, etc. Suppose all goods were of some value to all the traders. For example, a sheep is x many A-values, y many B-values, z many C-values etc. Even if the values of a trade are essentially private and particular to an individual, the fact of exchange itself means we can still identify these $x_A = y_B$. This is a stipulation not an

⁹ It should go without saying that the fact that the economic proof cannot be straight-forwardly adopted does not prove that the corresponding point cannot be made in the semantic case. In fact, though they employ game-theoretic techniques rather than the real analysis of general equilibrium theory, recent work by Jäger and van Rooij (2007), van Rooij (2004), Lenaerts et al. (2005), de Vylder and Tuyls (2006) and Lenaerts and de Vylder (2006) show that clear structural parallels can be drawn between economic processes and convergence upon successful communication strategies. Unfortunately, their work does not address the problem of holism so it cannot itself fill the present gap.

¹⁰ I consider barter, even though money as the medium of exchange may seem a more apt analogy, because it is the emergence of public economic value that is relevant here and money complicates this concept but doesn't alter the fundamentals.

assumption and it is of last importance. Basically the crucial issue should be whether the values are commensurable at all, and not whether it is an equality or an inequality between x_A and y_B . If the values are commensurable at all, then there must be some values x'_A and y'_B such that they are equal.¹¹ But there's some intuitive support for the stipulation, namely that A and B are exchanging some good which is worth that much to them (namely x_A to A and y_B to B).¹²

Obviously, within any scheme of personal values the values are commensurable, and indeed within the scheme the values of all goods could be expressed as ratios. So a desk might be three window frames ($3x_A$), as far as A is concerned, perhaps a lampshade is $x_A/3$. This point is crucial. Within each private measure of value, the relative costs of goods are expressible as ratios, perhaps of just one good (the economists then say the good is acting *numeraire*). But the market itself is also going to settle on market-wide rates of exchange for all goods, the economic value of these being expressed as a ratio of other goods or the numeraire good. This means the market itself could be considered a different person M, with M -values! That is, in so far as persons are represented by their different value schemes, the emergence of market wide rates of exchange of goods induced by aggregating individual exchanges by different agents, can be thought of as another agent whose induced value scheme is the product of the trades going on at any given time. This person M at the beginning would be really inconsistent and unreasonable as they will have wildly intransitive preferences among goods. M starts this way because the decisions affecting M -values, the ratios at which goods are exchanged, are made by other people not acting in concert. But the economic proofs of a general market equilibrium show that if the market is able to behave efficiently, if producers and consumers have adequate access to price information and so on, then eventually a stable set of M -values will emerge. And M -values just are public economic values or market prices.

What is interesting about this picture is how the private/public gap is bridged. Initially the values are private, but because they are internally commensurable, they are expressible as ratios of goods. And ratios of goods are how value is measured in all other private value schemes. Trade effects (sic) a commensuration between value schemes and aggregates these ratios to a public market measure. And it is even more interesting to think about what happens to the private values scheme given the emergence of a market value scheme. Trade itself exerts a rational pressure over the long term to bring one's ratios into line with other people's. This is particularly strange since the private value schemes represented the labour cost to an individual. So it amounts to saying the prices of the public market affect how much labour

¹¹ If $x_A < y_B$ and $x'_A > y'_B$ at some other point, then if we're using the real numbers there is an x'' and y'' such that $x''_A = y''_B$.

¹² And the other good being exchanged is also worth this. This raises a question, why bother exchanging goods that are worth the same? This is a psychological issue distinct from the matter of the economic value of the goods. Perhaps the answer is brute, e.g. you just prefer the colour of one of the goods. But it is also possible that either A or B thinks the other thing is worth more or less in their own terms than what they give for it. This could be an objective matter if it would actually take them longer to produce it themselves than what they offer for it. But at the moment of exchange and for all moments after that the two goods must be of equal value because if one were costlier, it should always be bartered for and never manufactured. The possibility of exchange effects (sic) the equality (since the way the rational person would 'make' the good from then on is by earning enough to trade for it).

something will cost you. But once trade exists, it makes sense for you to use your labour as effectively as possible. The productive power of labour varies from person to person. The big and strong can do some things better than the artistic and creative but other things less well. Given the opportunity to trade, people's rational self-interest encourages them to work in the area where the productive power of their labour is the greatest to earn enough simply to buy the other kinds of thing. In labour terms the cost of things you do poorly comes down as a function of how much the labour you can provide and the goods you want are valued. That is, initially, the labour cost of the things you do poorly is a high multiple of what you do well (it is just harder for you to do these things, as they say). This is one ratio. The market rate is another. By buying in what it takes too much effort to make, you adjust the ratio of what you do well to what you do poorly in the direction of the market rates. Everyone is the same in this regard. We're subject to the same pressures. Hence everyone's initial private ratios, whatever they are, will drift in the direction of the market rate, which is itself going to settle at some set of equilibrium prices.

This picture assumes lots of things, of course. We're assuming that the trade is fair and that people are not exchanging things for others which are on their own terms not of equal worth. There could be a host of factors entering into the particular circumstances of why people trade that cannot enter into the overall market price (like desperation, overwhelming desire to see a concert performance, sports match, or other one-off event). Maybe people are irrational in their choices and have intransitive choices. These subjective factors could influence what something is worth to one person but not what its market price is because the market involves many, many people. We are ignoring the fact that some things, like music, are the joint result of cooperative labour, and that they can be copied almost without cost and distributed to others who do not pay for them and so on and so on. The idealised nature of these assumptions is not a reason to reject the general picture being developed, but rather a basis for examining the interesting consequences that may ensue when the conditions are relaxed.¹³

Now for the linguistic comparison. We begin by assembling the materials for the comparison. Firstly remember we operate with a partly subjective framework. So let the private values be private meanings, not in the sense of the essentially private meanings which are the object of Wittgenstein's criticisms, but in the looser sense of being meanings *for someone* (however this is further worked out). They are individual and particular. We could find examples in the work of Brandom, Davidson and Quine. Secondly, these meanings need to be internally commensurable, though not necessarily as ratios. As long as within each scheme the meanings of words are holistically inter-definable that should be enough. What we need is for an utterance to have consequences in a quite broad sense. For example, the consequences of 'A cloud is passing before the sun' could be 'There is a sun,' 'Clouds are made of water,' 'Water can exist in liquid or gaseous form' (so the connections don't as such need to

¹³ For instance one dimension of idealisation that would be interesting to see relaxed is the effect on the behaviour of the market of unequal power relationships between agents. If the comparison developed below of economic price and public meaning is plausible, inequalities of power and status between expert authorities and other speakers may account for the Putnamian observation of the division of linguistic labour.

be strict analytic ones). Such consequences are an essential feature both of inferential/conceptual role semantics and Davidson's programme.¹⁴

Finally, we need an analogue of exchange. We should address what may seem like a blatant disanalogy, namely that barter usually involves swapping one good for another but we cannot or should not see communication as exchanging one utterance for another, since the utterances usually don't have the same meaning. Communication is not repetition. So it is necessary to conceive of the exchange as one of goods for services, and in the linguistic case, as the exchange of one utterance not for another but for the 'service' of uptake. Here, again, the primary explanatory theoretical devices have already been developed by others. The 'service' may be nothing more than updating the conversational score (in the sense of Brandom's 1994 refashioning of Lewis's 1983 concept) to record the significance of the utterance (but since the values are particular to each player, we assume each player (speaker and audience) records the conversational score differently).¹⁵ The score of a conversation is a complex record of what has been said and of the significance of what has been said that keeps track of the doxastic commitments undertaken by each party as well as significant features of the conversational context that may fill in any open contextual variables in an utterance (such as the reference of indexical terms or anaphora) or permit the pragmatic enrichment of what is said in various ways.¹⁶

We suppose that the spoken exchange initially has a different meaning for the speaker and hearer, as reflected in how they keep score, but the spoken exchange—that event—like the trades in the economic case, is a public fact. The location of the utterance within the scores kept by the speaker and hearer can be equated: The location in terms of S's score is (=) the location in terms of H's score. Just as in the economic case, this is a stipulation. We should take the communication to *effect* an identification and commensuration of the two score schemes (in the sense of bringing about an identification that needn't have already been there). From that point and other points established by other spoken exchanges *all*¹⁷ the addresses in the scorekeeping schemes of the speaker and hearer can be located. If communication equalises speaker scores to hearer scores and vice versa, and these scores have locations within scorekeeping schemes, then communication sets up prior or predicted/expected potential identifications for possible future utterances (as well as saying what past utterances should in light of the current communication be taken as having said). If the scorekeeping schemes are holistic, then this future- and rearward looking bearing of current utterances is massive. Like the economic case, there's an impersonal "market" score consisting of just the spoken exchanges and an implied scoring scheme induced by the relations between actual utterances. Like the initial market person, M, the public score will be massively inconsistent to begin

¹⁴ The illustrative sentences are borrowed from Davidson 1984, p. 200. The exact nature of the interdependencies depends on the type of holistic theory of meaning at issue. For Davidson the connection obtains because these sentences would be among the beliefs attributed to a speaker by theory of interpretation that satisfied his preferred constraints. For Brandom, the connections are made explicit in entitlement preserving or commitment preserving inferential relationships among the sentences.

¹⁵ Multiplicity of scorekeepers is a feature of Brandom's account of language (see 1994, chapter 3).

¹⁶ On pragmatic enrichment see Recanati (2004), although he doesn't discuss this in terms of a conversational score.

¹⁷ This requires holism.

with, because the linguistic definitions implied by the relationships between actual utterances are not the result of any one person's decision, and each scorekeeper individually takes the actually produced utterances to bear slightly differently on the score (i.e. to mean something different). Nevertheless, the market score should settle down and the individually kept scores of different people should converge on the public one. The locations of utterances in the broadly stable and settled public scoring scheme are the public meanings of those utterances.

The conception I am offering here is a dynamic one. When I stipulate that the communication effects an identification and commensuration of the scorekeeping schemes of the speaker and audience, this is like stipulating that falsehoods are true: It can only operate as an updating, meaning revising process. After the update, they were not falsehoods. It is taking it that at the point of communication the speaker's and hearer's interpretations of the utterance are identical that creates the movement in individual interpretations. Given this conception, the holism is a positive boon because it is the holistic nature of the individual scorekeeping schemes that creates the possibility for further misunderstanding or accord with regard to other utterances. If the meaning of an utterance had no consequences for any others, then the stipulation would be pointless (and also completely unwarranted, since one cannot make things true by fiat).

It may be helpful to see the general conception restated in different terms. The first restatement is premised on the idea that as a brute matter of fact, speakers and audiences tend to take each other to be using words with the same meaning as they do. This is simply a pragmatic stance speakers take towards each other in conversation. Of course sometimes in conversation you come to suspect that your conversational partner is using a word in a different way from you, but this is exceptional (and we are apt to regard it as a mistake on their part). A speaker will as a rule have two attitudes to any given utterance and speech partner: one as to the semantic value of the utterance, i.e. to what it means, and one to the effect that the audience also takes the utterance to have this same meaning. As theorists, we assume on the contrary that speaker and audience initially attach a different significance to the utterance and that the semantic value of the utterance is holistic. However, given that speaker and hearer each take the semantic value of the utterance as agreed, and given that the value they each assign is relative to all the other expressions in the language, there are consequences for which attitudes they will and ought to have regarding other expressions. For example, suppose I utter the sentence 'There is a cloud passing before the sun' and you seem to agree. Regardless of what value we each take that sentence to have, consistency requires that we form expectations about how the other should use the sentence on other occasions. The next question to ask therefore is whether there would be a pressure towards convergence, and it seems to me that there would be as long as failure to communicate led to practical inconveniences, and it seems obvious it would. Any benefit from speaking idiosyncratically is surely parasitical on a preponderance of coincidence in use (in the same way lying is possible only against a background of mostly telling the truth).

The second way to put the general approach does not exploit the assumption that the speaker and hearer take each other to assign the same value to the words of their exchange. Instead, it makes use of the inferentialist proposal that the semantic value

of an expression is a function of its inferential role.¹⁸ Though we do not assume that they agree on the value of sentences, just as with the economic case we assume they agree on the sentences themselves (i.e. the verbal objects, non-semantically individuated). Brandom explicitly takes this route in (Brandom 2007, p. 665). The speaker and hearer each treat these sentences as having inferential significances and so, as before, they therefore end up forced into expectations about each other's future utterances. For example, if I'm talking to someone and we both seem to agree to the sentence 'There is a cloud passing before the sun' then I will expect them to agree with 'there is a sun,' 'Clouds are made of water,' 'Water can exist in liquid or gaseous form' and so on as well. And their subjective assessments of the significance of sentences generate *mutatis mutandis* corresponding expectations about my future verbal behaviour as well. Once again we need to ask whether there will be a pressure toward convergence in verbal behaviour and once again it seems there must be to the extent that failure to communicate results in inconveniences.

Just in case it is not apparent from this general statement, the point I am driving at is that finding points of agreement given a holistic framework imposes further points of agreement, and calls for revision and retraction when the agreement is not forthcoming. Davidson anticipated this. He was quite explicit (e.g. 1984, p.200) that attributing a belief like 'a cloud is passing before the sun' to someone carries with it a consequent commitment to attribute the pattern of further beliefs that support it and to further commitments regarding those beliefs. The point remains the same if we put it in terms of the meaning of utterances. But Davidson's way of making the point (in terms of charity) downplays the fact that the best way of making sense of others could involve a revision of one's own beliefs.¹⁹ If this picture is broadly right, the activity of interpretation is rationally constrained just as I argued economic exchange is.

The foregoing speaks more to the issue of commensuration than convergence. To vindicate the conception of communication as employing public meanings against this background one needs to show that the same kind of natural selection procedures will exert a pressure on speakers towards a convergence. What drove the convergence sketched in the economic process was the differing productive powers of individuals and their desire to make the most of them. I do not think the mechanism in the linguistic case will have quite the same form. I doubt there's anything akin to a 'profit motive' in the linguistic case, for example. But it suffices to reflect on the massive practical advantages of communication. Individuals benefit greatly by being able to find out by asking where the bus goes, when it goes, and so on. This practical utility allows us to predict the emergence of broad trends of coincidence in the use of words, which comes to the same thing as coincidence in meaning. Or we can simply postulate a desire to communicate with others. This does

¹⁸ Or, if we're talking about subsentential expressions, that the semantic value of a subsentential expression is its contribution to the inferential potential of the sentences in which it occurs in a primary capacity (see Brandom (1994) for a detailed working out of this account).

¹⁹ Though otherwise very similar to Davidson's picture, this account emphasises an additional feature, namely the evolving emergent public meaning of words as the "market" equilibrium semantic values. Individual speakers are subject to a pressure to bring their usage into line with the market, as this maximises their comprehension of others and vice versa. Whereas Davidson's 'charity' involved interpreting others as rational by one's *own* lights, the present account also involves adjusting one's semantic attitudes to accord with others.

not seem unrealistic psychologically. So long as there is some force inducing a pressure to bring the significance one attaches to utterances in line with the others' judgements, there will be a long-term convergence in use.

The Communication Problem Revisited

I think it worthwhile to restate the communication problem and make explicit how it is overcome. The original objection insists that a commitment to holism and subjectivity about meaning prevents one from providing an account of communication because communication involves attaching the same meaning to utterances and holistic, subjective accounts of meaning ensure that speakers will attach different meanings to utterances. On the contrary, it has been argued, it is not genuine mutual understanding but the reciprocal assumption of mutual understanding that matters. The speaker and hearer take it that there is mutual understanding and that is what makes it possible to form rational expectations about each other's future verbal and non-verbal behaviour.

Genuine mutual understanding, as a substantive notion, is a long-term outcome of communication and not a precondition for it. Mutual understanding at the moment of communication enters the present picture not as a substantive notion, but as a thin operational principle built in to the structure of the account. It is the stipulation that speaker and audience mean the same thing by their utterance that drives the development of a public language norm. The identity taken to hold at the time of the utterance licences expectations on the part of each speaker about what the other speaker must mean in different contexts, and thus creates the possibility of these expectations being frustrated or confirmed. Subsequent identifications *ipso facto* rewrite concepts that were frustrated and retain concepts that were confirmed. And as speakers as individuals profit from agreement and not from discord, it is in this way that the concepts evolve.

Let me summarise the case. The communication problem asks how a holistic account of meaning can account for communication given that speakers with different beliefs will mean different things by their words and thus won't possess the mutual understanding required for communication. The proper response, I believe, is to see mutual understanding as a consequence of communication that arises from pressures towards convergence and coincidence in the use of expressions (much as public market prices are the effect of trade and exchange and not a prerequisite for them). Speakers have instrumental reasons to speak and think like other speakers do, which leads to broad patterns of public and intersubjectively agreed upon use.²⁰

²⁰ I will say briefly how my conception compares with Lewis on convention and Davidson on malapropism. I give, in effect, an argument for why we speak the same language (in some sense). In that respect it is like Lewis's project in "Languages and Language" but Lewis's convention-based account assumes that speakers have quite complex beliefs about others (for instance, it must be mutual knowledge that everyone conforms to a certain regularity (1983, p. 165)), whereas this account doesn't. It differs from Davidson because he thinks communication in particular cases goes by way of ad hoc interpretations of others ('passing theories' see Davidson 1986). I do not address this sort of case at all, but only try to provide an a priori rationale for explaining, as he would put it, the degree of initial similarity between the prior theories. Additionally, Davidson tells the story from the interpreter's eye view as it is an account of the knowledge that would suffice to enable one to interpret the utterances of another (1984, p.125), whereas this is an account of the emergence of a perspective distinct from individual speakers (the perspective of the market person).

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