FEATURE-PLACING SENTENCES AND THE CANONICAL SCHEME

Xiaoqiang Han

Abstract

Feature-placing sentences are often confused with the general sentences in the canonical predicate calculus. The confusion is largely caused by their perceived commonality that both lack the subject-predicate form. In this paper, I offer some clarification of the fundamental differences between the two: the general sentences of the canonical predicate calculus contain predicates and variables which take individual objects as their values, and it is the sense of predication implied by the existence of predicates in these general sentences that is completely absent in feature-placing sentences.

1. Elimination of Singular Terms

Feature-placing sentences such as "it is raining here" or "there is snow there" are so called (by Strawson), because they are used to describe some feature of the world (water, snow, etc.) to be found in some place and time, and the feature introduced in such sentences is simply "a general kind of stuff", not a particular nor a property or characteristic of particulars. Like a subject-predicate sentence, a feature-placing sentence consists of two main components, a feature expression (e.g., "water") and placing (e.g., "here"). But unlike a subject-predicate sentence, it contains no part that introduces a particular.[1] While the introduction of a particular by a sentence, according to Strawson, would automatically disqualify the sentence as being feature-placing, the lack of any such introduction in a sentence, I argue, does not automatically qualify it as being a feature-placing sentence. Case in point is the so-called standard quantified sentences or general sentences in the canonical predicate calculus. There is a quite prevalent confusion of feature-placing sentences with such quantified sentences. Ian Hacking, for instance, equates quite explicitly "feature-placing language", a language that contains only feature-placing sentences as understood by Strawson, with the language resulting from elimination of all singular terms *a*

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[1] Strawson (1959: 203).

la Quine, and dubs the former "the Quinian language". He describes such a language as follows,

> The implied model of a language must be very ancient. Assertions might consist of utterances of feature-words. If "whale" and "spouting" were such words in a feature-placing language we might translate an utterance of "Whale" as, "there is a whale". "Spouting" would be, "there is spouting going on". "Whale spouting" would convey the fact that the features of whaleness and spouting are found together in some place indicated by context: A whale is, or whales are, spouting. The force of these feature-placing sentences is much like that of sentences of an interpreted predicate calculus: $(\exists x)(Wx)$, $(\exists x)(Sx)$, and $(\exists x)(Wx \wedge Sx)$.[2]

They are indeed similar insofar as neither introduces particulars. Standard quantified sentences, at least conceived in the Russellian-Quinian tradition, are a result of elimination of singular terms that occur in sentences of the subject-predicate form. Russell eliminated definite descriptions from the predicate calculus, and thereby provided an adequate formal logic without subject-predicate structure. By extending Russell's theory of descriptions, Quine was able to analyze away not only descriptions, but also proper names. Ultimately all sentences of the subject-predicate form can be paraphrased into sentences which are not subject-predicate through eliminating singular terms. "All singular terms, aside from the variables that serve as pronouns in connection with quantifiers, are dispensable and eliminable by paraphrase."[3] A sentence devoid of singular terms will be such that it contains nothing but logical connectives, quantifiers, variables and predicates. A sentence containing proper names or singular descriptions will be re-construed as of the form $(\exists x)(...x...)$, after singular terms are eliminated. However, the elimination of singular terms which results in non-subject-predicate sentences, does not eradicate subject-predicate as a conceptual scheme within which sentences resulting from such elimination of singular terms can be properly understood.

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[2] Hacking (1968: 171).
[3] Quine (1953: 13).

2. What Cannot Be Eliminated in Singular Terms Elimination

It is worth noting that Quine sometimes calls bound variables singular terms (the remaining singular terms),[4] and says that reference to single objects is made by variables of quantification. Now it may appear quite odd to regard variables as singular terms and think that they can take over the burden of referring to objects. The bound variables in such sentences are certainly not singular terms in the sense in which proper names are, for they do not purport to name or refer to particulars, they are merely place holders for their values to fill in. Yet they have something to do with singular terms just because the values are expressed by singular terms like proper names before the elimination. Or as Quine puts it, "The singular term belongs in positions of the kind in which it would also be coherent to use variables 'x', 'y', etc. (or in ordinary language, pronouns)."[5] Because quantification for Quine carries ontological commitment, the position of variables should be reserved for singular terms and not for general terms, if one wishes to avoid Platonism. But the doctrine of ontological commitment should not worry us, and the quantifier need not to be tied to individual variables. The quantifier itself, as C. J. F. Williams points out, can be viewed in the way being is for Aristotle, that is, it is outside all categories, and can be used to bind variables of any category.[6] However while a variable can be of any category, it must be of one and the same category in a given sentence. For instance, the variable x in "for some x, x is a king and x is bald" is of the category of particular individuals, whereas the variable φ in "For some φ, both red horses φ and sunsets φ" is of the category of predicables. It is a function of a bound variable that it indicates what category of expression is required to provide an existential or universal instantiation of a quantified formula.

Thus the elimination of singular terms will not result in feature-placing sentences, which do not contain variables of the category of particular individuals. Such variables are nevertheless a necessary part of the sentences resulting from elimination of singular terms.

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[4] As Strawson observes, Quine entertains two senses of the expression "singular terms", the broad sense including variables of quantification that serve as pronouns, and the narrow sense excluding the variables. The singular terms which can be eliminated are only ones understood in the narrow sense. See Strawson (1956: 433-454).

[5] Quine (1982: 205). Quine is careless here. Pronouns of ordinary language (e.g., "he", "she", "it") are singular terms in the narrow sense, because they refer to people or objects in a given context, though they are not names.

[6] Williams (1981: 153).

There is no shift of conceptual scheme in Quine's elimination of singular terms, as "[n]one of the eliminations of singular terms … eliminated objects", and "the objects stay on as values of the variables though the singular terms be swept away."[7] The paraphrase of sentences with conspicuous subject-predicate form into those containing only logical connectives, quantifiers, variables and predicates is a paraphrase precisely because it is accomplished within the same conceptual scheme in which sentences with conspicuous subject-predicate form are understood. In his critical response to Quine, Strawson makes the following point, "we do not come to understand the use of a logical symbolism simply by gazing at the symbols. It has to be explained to us in terms not belonging to the symbolism. So it has to be explained to us, in such terms, just what *are* the positions in which it would be coherent to use the variables 'x' and 'y'".[8] In fairness, Quine does explain to us his symbolism, not in terms of singular terms, but in terms of the kind of values for the variables, namely, objects, which certainly do not belong to the symbolism itself.

3. Feature-placing Sentences and Standard Quantified Sentences

With his theory of presupposition, Strawson in fact provides a very clear account of how feature-placing sentences are distinguishable from standard quantified sentences. According to this theory, any sentence that introduces a particular presupposes some empirical fact, i.e., some "term distinguishing" fact. While the sentences that are used to express such facts may themselves involve the introduction of other particulars or quantification over particulars, there are always sentences at the end of the regress of presuppositions which contain only predicates and bound variables of existential quantification, if we pursue the regress to the end.[9] However such sentences still introduce particulars, albeit in a different sense. They introduce "kinds of particulars, or even particulars in general". Facts expressed by sentences that introduce particulars in this second sense are presupposed by sentences that introduce particulars in the first sense, and the sentences that express such facts presuppose or rest upon the existence of facts the statement of which does not involve introducing particulars in

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[7] Quine (1960: 192).
[8] Strawson (1956: 439).
[9] Strawson (1959: 192-198).

any sense or quantifying over any particulars at all.[10] So there are two kinds of presupposition which parallel the two kinds of introduction. The first kind of presupposition is the presupposition of facts expressed by sentences involving the second kind of introduction by sentences involving the first kind of introduction, whereas the second kind of presupposition is the presupposition of facts expressed by sentences involving no introduction of particulars by sentences involving the second kind of introduction of particulars. Now only the second kind of presupposition of facts is the presupposition of feature-placing facts expressed by feature-placing sentences, which are themselves not quantified sentences or at least not standard quantified sentences, and the feature-placing facts they express are presupposed by quantified sentences.

Those who confuse feature-placing sentences with standard quantified sentences might have been misled by Quine's way of formulating quantified sentences. Quine suggests that whenever we cannot find a ready-made description for a proper name, we can always manufacture one in the following way. From names like "Socrates" and "Pegasus", we can form the verbs "socratizes" and "pegasizes". The sentence "Socrates is wise" can then be replaced by "there is one and only one thing such that it socratizes and it is wise". "It socratizes" is the same in grammatical form as sentences of the impersonal construction like "it snows". This, coupled with Quine's occasional use of genuine impersonal sentences such as "it mamas and it smiles" to illustrate the primitive stage of thinking, encourages the confusion.[11] However, in the sentence "it snows", for instance, "it" is not a variable, and cannot be treated as such, for there is nothing that may be thought as a value for it. As a mere dummy, the "it" in "it snows" only serves to satisfy the grammatical requirement of the English language for sentencehood. That impersonal constructions such as "it snows" are sometimes called subjectless sentences[12] should be understood not only in the weak sense that the dummy subject does not denote any particular thing, but also in the strong sense, in the sense just described, that it is not even a variable. Only understood in the weak sense,

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[10] Strawson (1959: 199).

[11] The confusion caused by the careless reading of Quine persists in some of the most recent literature on feature-placing sentences. Austen Clark in his *A Theory of Sentience* cites Quine's example of "something is cating and is white and is dog-facing and is bristling" to illustrate the idea of multiple features placing. See Clark (2000: 148).

[12] Brentano (1969: 98-108).

may such sentences be also called "mere predicate sentences"[13], as, for instance, although the pronoun "it" is a dummy, the verb "snows" is not, and it looks the same in kind as those which are unquestionably predicates, "runs" as in "the cat runs", or "is wise" as in "Socrates is wise". This makes sense especially when we consider two sentences with the identical appearance, (1) "it is cold" (reporting weather), (2) "it is cold" (describing the temperature of a particular thing, e.g., a poker). It does not seem wrong to think that they share the same predicate, though one is subjectless and the other is not. Understood in the strong sense, however, "predicate sentences" is clearly a misnomer. As Brentano points out, subject and predicate are correlative concepts and they stand and fall together, such that a sentence that is truly subjectless must also be predicateless.[14] "Snows" and "is cold" in (1), appearance to the contrary, are not predicates, precisely because the "it" in these sentences does not even make a cross reference to "something". We cannot respond to the claim "it is cold" when understood as (1) by asking "what is cold?" But we certainly can ask such a question in response to "it is cold" understood as (2) and we expect something like "the poker" to be the answer. The fact that we cannot ask such a question indicates precisely that not only is there no actual subject in the sentence, but also no concept of subject which is necessary to make the sentence intelligible. By contrast, the quantified sentences that result from the elimination of singular terms introducing particulars can only be called subjectless in the weak sense and are therefore not predicateless. The "it" in "it socratizes" is a pronoun which cross-refers to "something" of the existential claim "there is something". Or to put it differently, to understand the role of the variable x in F(x) is to understand that it can be replaced by a constant a and F(x) can have an instant F(a). But to understand instantiation one must have the concepts of subject and predicate in the first place. That is why we can speak of such quantified sentences as subjectless, yet as also containing predicates along with logical connectives, quantifiers, and variables.

Impersonal construction is not the only form of feature-placing sentences, which can also take the existential form "there is snow here", and even an apparent subject-predicate form "snow is falling here", though the latter may be regarded as a different way of saying

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[13] Brentano (1969: 104).
[14] Brentano (1969: 104).

"there is snow here and it is falling". Now "there is snow here" is of the same form as that of "there is a cat here", a standard existential sentence, except that the noun ("snow") in the former sentence is a mass noun while the noun ("cat") in the latter is a count noun. But would this make any difference? Williams thinks it does. According to him, the difference it makes is that "there is" in the latter is an existential quantifier and hence expresses existence, a view derived from Quine's dictum that existence is what the existential quantifier expresses, whereas "there is" in the former is not, it merely functions as what he calls a "verbalizer" to convert a noun (e.g., "snow" in "there is snow here") into a verb (e.g., "snows" in "it snows here"). He explains that the reason why the latter alone expresses existence is that it alone admits instantiation, and the existence of something is nothing more than the instantiation of some property.[15] Sortal universals such as cat and table can be instantiated, whereas feature universals like snow and water cannot, because, quite simply, there are no such things as a snow and a water, but only a pool of water and a patch of snow—a pool of water is an instance of pool of water, not water, and a patch of snow is an instant of patch of snow, not snow.[16] But the idea that feature-placing sentences like "there is water here" do not express existence cannot be right, as it amounts to saying that only objects, but not stuffs, exist, which is plainly false. Given that it deductively follows from the premise that existence is identical with instantiation, the premise itself must be false. However, Williams' argument highlights in a particular way how fundamentally the concepts of feature (or matter) and feature-placing are foreign to the canonical scheme of particular and universal, subject and predicate, which is often represented as being ontologically exhaustive.[17]

4. Different Conceptual Schemes

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[15] See Williams (1981: 300-316). What Williams expresses here is the core idea in a philosophical tradition on existence going back to Frege that existence is a second-level predicable predicated of concepts, not a first-level predicable predicated of particulars.

[16] See Laycock (1979: 111).

[17] See Laycock (2006: 55-58).

The difference between feature-placing sentences and the standard quantified sentences may then be understood as a difference between two conceptual schemes, that is, between the "primitive" or "immature" conceptual scheme and "adult" or "mature" conceptual scheme, as Quine call them respectively. The following is how Quine contrasts the two:

> We in our maturity have come to look upon the child's mother as an integral body who, in an irregular closed orbit revisits the child from time to time; and to look upon red in a radically different way, viz., as scattered about. Water, for us, is rather like red, but not quite; things are red, stuff alone is water. But the mother, red, and water are for the infant all of a type; each is just a history of sporadic encounters, a scattered portion of what goes on. His first learning of the three words is uniformly a matter of learning how much of what goes on around him counts as the mother, or as red, or as water. It is not for the child to say in the first case "hello mama again," in the second case "Hello, another red thing;" and in the third case, "hello, more water." They are all on a par: "Hello, more mama, more red, more water"[18]

In this "primitive" or "immature" conceptual scheme, the distinction between count nouns, mass nouns, and adjectives breaks down, there is only concatenation of features, instead of attribution of properties to particulars, and the speaker of the language treats all she encounters as referents of mass nouns. There are, for instance, no particular cats, but only cat feature or various occurrences of cat feature.

It should be noted that this "infantile learning situation" should not be confused with the "adult learning situation" which Quine describes elsewhere. According to Quine, since all names can ultimately be dissolved into predicates (universal terms) and variables, the learning of names (particular terms) should be in fact based on the learning of predicates (universal terms). However, for any universal terms to be understood, some universal terms have to be learned ostensively by direct confrontation. He writes,

> We may insist that what are learned by ostension, or direct confrontation, are never names, but solely predicates. … Instead of treating the ostensively learned word as a *name* of the shown object to begin with, we treat it to begin with as a predicate *true* exclusively of the shown object; then we construe the name, as such, as amounting to "(rx)Fx" where "F" represents that primitive predicate.[19]

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[18] Quine (1960: 92).
[19] Quine (1982: 218).

That is, in learning the universal terms from which other universal terms may be learned discursively, we must put ourselves in the situation where the universals the terms stand for are present. Now whether or not singular terms introducing particulars must be actually present in such a situation is a matter subject to debate[20]. It is undoubtedly an adult's learning situation, one in which the learner has already mastered the ins and outs of our adult conceptual scheme of enduring and recurring particular objects, in contrast to the "infantile learning situation". To confuse feature-placing sentences with the standard existential sentences is in a sense to confuse the "primitive" or "immature" conceptual scheme with the "adult" or "mature" one.

Of course, feature-placing sentences are not used only by children before they have become mature, that is, before they have mastered the divided reference of general terms or the scheme of enduring and recurring particular objects. The difference between the "primitive" or "immature" and the "adult" or "mature" conceptual schemes is the presence in the former and the absence in the latter of the concept of particulars, rather than that in the former there is no longer a place for the concept of feature—we in our maturity constantly use such feature-placing sentences as "it is raining here" or "there is water here" to describe feature-placing facts. As Quine puts it, "The mastery of divided reference seems scarcely to affect people's attitude toward 'water'. For 'water', 'sugar', and the like the category of mass terms remains, a survival perhaps of the undifferentiated occasion sentence, ill fitting the dichotomy into general and singular." [21] The difference between feature-placing sentences and the standard quantified sentences has something to do with the difference between the two conceptual schemes, just because the use of the standard quantified sentences does, while the use of feature-placing sentences does not, require the grasp of the concept of particular or the dichotomy into general and singular, which belongs only to the "adult" or "mature" conceptual scheme and not to the "primitive" or "immature" one.

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[20] Strawson suggests that to articulate such a situation, or to express a case of direct confrontation, some demonstrative element must present in the language, which can only be understood as introducing a particular. See Strawson (1956: 449-451). In objection to this view, Cheng argues that "the linguistic demonstrative element need not be incorporated in an expression which makes identifying reference to the instance of the predicate, nor need it be presented by demonstrative adverbs such as 'here' or 'there'. … the identification of, and the identifying reference to, a particular can be partly decided by the act of pointing and partly by the categories of things in a given situation to which it is recognized to belong." See Cheng (1969: 282-295).

[21] Quine (1960: 95).

While the "primitive" or "immature" conceptual scheme may well be the factual conceptual scheme of children in the early stage of learning their first language, there is no theoretical difficulty to conceive a language spoken by mature adults whose sentences are all feature-placing, such that the conceptual scheme it implies is very much the same as the children's, yet speakers of such a language can perhaps say things having approximately the force of the things speakers of a "mature" language like English actually say. This possibility is suggested by some "revisionist" metaphysics, most notably process metaphysics, which sees particular objects like rocks, trees, animals and people as nothing more than series of snapshots taken by the mind, while in reality there are only stuffs blending into each other and shifting ceaselessly. The conceptual scheme thus envisaged will include no concept of particular and the facts that are described in English by subject-predicate sentences will all be described by feature-placing sentences.[22]

5. Quantifying Feature-placing Sentences

While feature-placing sentences are different from and hence should not be construed as existential sentences of the canonical predicate calculus, they can certainly be construed as existentially quantified sentences of a different sort. "There is water here" can be glossed as "there is something such that it is water and it is here". However, the values that can fill in the variable must be of a category different from that of which the values fill in the variable in quantified sentences resulting from the elimination of singular terms. It cannot be replaced by a constant for a particular as in the case of existential instantiation. "Something" here no longer means at least one thing, and a value of the variable will not be an instance of water, as water, or anything like water for that matter, cannot be instantiated, but the incidence of water, for example, the water that is here or the water in a glass. The question is whether feature-placing sentences can always be construed in this way, that is, as quantified sentences that contain variables whose values are particular incidences of matter such as the snow on the roof or the water in the glass. If feature-placing sentences are understood as

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[22] The conceptual scheme of the third ontology Zemach describes in his well-known piece "Four Ontologies", the ontology whose entities are bound in time but continuous in space, seems to approximate to such a conceptual scheme. See Zemach (1979: 63-80).

making indefinite references to the incidence of matter, there must be corresponding sentences that are able to make definite references to it. We can move, for instance, from "there is water here" to "the water that is here", "the water in my glass", or simply "this water".

Now it appears that such kind of move cannot always be made—it cannot be made quite certainly in what may be called the flux situation, in which no particular incidence of matter can be differentiated from any other and can therefore be referred to as such. One may point at the flowing water in a river and say "there is water here". However, for the sentence "there is water here", there doesn't seem to be a corresponding sentence that contains the *definite referring* expression "the water that is here" or "this water", an expression that is able to pick out some particular incidence of water. In other words, although it is true to say in such a situation that there is water in the river, there is no incidence of water that we can refer to in the way we can refer to the water in a glass, when it is also true to say that there is some water in the glass. Given that the ability of making indefinite reference cannot be separated from the ability of making definite reference, "there is water here", when used to describe the fact about the flowing water in the river, should not be understood as making an indefinite reference to some particular incidence of water. Surely, "there is water here" is still a quantified sentence and as such it can be read as "there is x and x is water and x is here". But what kind of values can fill in the variable? They are certainly not particular individuals, nor particular incidences of matter. It would seem that the variables in feature-placing sentences, when used to describe facts of flux, can only be universal variables, that is, feature universal variables, as they can only be filled in by feature universals. Thus the best way of reading "there is water here" is that "there is some liquid (or simply stuff) and it is water and it is here".[23] Now this way of quantifying a feature variable is in some sense akin to quantifying predicate variables; "there is some liquid (or simply stuff) and it is water and it is here" is then comparable to "there is some quality and it is red and it is a quality of the maple leaf", which is a reading of "the maple leaf is red". It should be noted, however, that while in both cases the values of the variables

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[23] "Some liquid or some stuff" may be easily but mistakenly interpreted as "some particular incidence of liquid or stuff". Here it should mean "a kind or type of liquid or stuff".

are universals, quantification of feature universals is beyond the hierarchical "orders" of the standard logical system which places particular individuals at the bottom.

Xiaoqiang Han

Queen's University at Kingston

hanxiaoqiang@gmail.com

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