IN SUPPORT OF ESSENCES

Author(s): John Hooker
Source: *Logique et Analyse*, NOUVELLE SÉRIE, Vol. 21, No. 82/83 (Juin-Septembre 1978), pp. 345-353
Published by: Peeters Publishers
Stable URL: https://www.jstor.org/stable/44083807
Accessed: 19-07-2020 15:15 UTC

IN SUPPORT OF ESSENCES

John Hooker

I want to make a case for the doctrine that everything has an *essence* that lends genuine insight into that thing's peculiar nature. I take an essence of a thing x to be, technically, a property that is essential to x (i.e., x cannot exist without it) and that x alone can have. Consequently, x's essence entails *all*
(2) Birkhoff G. Lattice Theory. American Mathematical Society. Collo-
case it is impossible that anything simultaneously have *P* and lack Q), (1) and thus x's essence is not only distinctive of x but in some sense captures everything that is essential to x. This may seem a somewhat paltry sense, though, in view of the fact that for any x the utterly trivial and nondescript property x-identity (i.e., *being identical with* x) qualifies as x's essence. But I will show that x's essence, when expressed in the right way, can be amply «thick» to tell us a good deal more about x than its x-identity. (2)

I propose that x's essence can be regarded, not only as the possession of the drab property x-identity, but also as the simultaneous possession of *several* properties P_1, P_2, etc., each genuinely informative. As «genuinely informative» properties I have in mind what I call *empirical* properties — properties such that it is possible *in principle* that someone be able to *recognize* them when they are exhibited by concrete particulars. And for present purposes, to be able to recognize a property *P* is to be able a) to possess, on occasion, knowledge based on sensory evidence that *P* occurs (is had by a concrete parti-

(1) For, x's essence, since it can be had by x alone, entails x-identity. But since nothing can be x unless it has all of x's essential properties, x-identity (and hence x's essence) entails all of x's essential properties.

(2) Plantinga has attempted a similar project in his «World and Essence,» *Philosophical Review* 79, (1970), 488-91. But I concur with Tichy that Plantinga's essences are no more informative than x-identity; see Pavel Tichy, «Plantinga on Essence: A Few Questions,» *Philosophical Review* 81, (1972), 82-93.

cular) in a certain place, and b) to possess, on occasion, knowledge based on sensory evidence that P does *not* occur in a certain place; a property that someone can recognize is called *recognizable.* Paradigm cases of empirical properties include yellowness, extension, beauty, etc. (For simplicity I will stipulate that trivial properties like *being bald or nonbald* and uninstantiable properties are recognizable, but that instantiable properties possessible by no concrete particular are nonempirical).

Now I concede that properties having empirical content this way typically are universal in the sense that each has a plurality of (and I would say an infinity of) possible exemplars, and hence no single empirical property can be an essence. But it is yet logically possible that a *conjunction* of empirical properties, such as *having* P_1, P_2, *etc.,* be possessible by one possible particular only (for example, if P_1 were possessible by x and y only and P_2 by y and z only). I will show that such is not only possible but the case, provided that enough assumptions are made about the formal rules governing empirical properties. And just the assumptions needed, for all practical purposes, are implicit in the following theory of empirical properties which I hold to be entirely plausible.

On this theory every property P is to be viewed as a *function* that assigns to every possible world a set of possible particulars, that set being P's extension in that world. [3] If I designate as P's *range* the set of all concrete particulars in P's extensions across possible worlds — i.e., the set of all possible concrete particulars capable of having P — then I can begin with my observation that

(1) the range of any empirical property is either infinite or empty, or as I will say is *nonfinite.*

For, it seems that no matter what finite number of (say) yellow,

[3] As advised by Dana Scott in his «Advice on Modal Logic,» in *Philosophical Problems in Logic* ed. Karel Lambert (Dordrecht: D. Reidel, 1970), pp. 143-73. Note, incidentally, that a property's range may contain *unactual* as well as actual particulars.

extended or beautiful things exist, it is logically possible that another pop into existence; hence the range of yellowness, etc., is of unbounded (i.e., infinite) size.

Next, if I adopt the reasonable gound rule that whenever the following are possible in principle:

> that one be able to recognize *P*
> that one be able to recognize Q

so is the following:

> that one be able to recognize *P* and able to recognize *Q*,

then I can safely affirm the conjunction rule:

(2) if *P* and *Q* are empirical, then so is *having P and* Q.

For, if it is possible in principle that one be able to have, on occasion, empirical knowledge that *P* occurs in some place, and similarly for *Q*, then it is possible at least *in principle* (so that the uncertainty principle does not apply here) that he have empirical knowledge that *P* obtains on the *same* occasion on which he has knowledge that Q obtains, and that *P* and Q moreover obtain in the same place (unless *P* and Q are incompatible; but then *having P and* Q is empirical by stipulation). Since the same goes for knowledge that *P* and Q do *not* obtain, *having P and* Q is empirical. Finally, the following is true by definition of 'recognizable':

(3) if *P* is empirical, then so is not-*P* (i.e., the complement of *P*).

Since it follows already from (1)-(3) that no *finite* conjunction of empirical properties can have a range of one, I will have to search for essences among *infinite* conjunctions of properties, a realm in which it is not easy to get results. The remaining rules will for this reason be a little rash, but they are yet plausible and, except for (4), they nicely parallel (1)-(3). That is, whereas (1)-(3) say in effect, respectively, that *empirical* properties, their conjunctions and their complements have nonfinite ranges, (1*)-(3*) below say the same for properties of the form possibly-*P*, where *P* is empirical. The first rule,

(1*) if *P* is empirical, then possibly-*P* has a nonfinite range, is redundant of (1) (since the range of *P* is the range of possibly-*P*); so let us go on to

(2*) if *P* and *Q* are empirical, then *being possibly P and possibly Q* has a nonfinite range;

(3*) if *P* is empirical, then not-possibly-*P* has a nonfinite range; or equivalently (due to (3)), if *P* is empirical, then *having P essentially* has a nonfinite range.

If *P* and *Q* are compatible, (2*) follows easily from (2); if they are not, then the plausibility of (2*) can be seen in an example. Letting *P* and *Q* respectively be the empirical properties redness and yellowness, then among (say) possible autumn leaves alone there are, no doubt, an unlimited number of possible exemplars of *being possibly P and possibly Q*. As for (3*), if *P* is essential to nothing then *having P essentially*'s range is empty and hence nonfinite. But if *P* is, say, solidity, which seems essential to any ice cube, then among possible ice cubes alone there are infinitely many possible exemplars of *having P essentially*. And so it would presumably go with other *P*'s.

Finally, I submit that the only possible grounds for denying that a given property is empirical is that it violates one of the above six rules with respect to properties that are known to be empirical; e.g., it has a finite nonempty range, or its conjunction with a known empirical property has a finite nonempty range, etc. Thus I can state,

(4) The class of empirical properties is *maximal* under the above six rules; i.e., it is such that if one more property were added to the class, a rule would be broken.

A crucial corollary of (4) is the following:

(5) if *P* is empirical, then so is possibly-*P*. [4]

[4] To show that possibly-*P* is empirical, it suffices to show that the following ranges must be nonfinite: 1. That of possibly-*P*. But possibly-*P* has the same range as *P*, and *P*'s range is nonfinite. 2. That of not-possibly-*P*. Follows from (3*). 3. That of *being Q and possibly P* for any empirical *Q*. But this range is that of *being possibly Q and possibly P*, which by (2*) is nonfinite. 4. That of not-possibly-possibly-*P*, and that of *being possibly Q and possibly possibly P* for any empirical *Q*. These ranges are respectively those of not-possibly-*P* and *being possibly Q and possibly P*, which are both nonfinite.

Examples will, I think, bear out the plausibility of this result. For instance, it is likely that the empirical property yellowness is (in principle) possessible by anything with extension; thus possible-yellowness is indeed possibly (in fact actually) recognizable, and hence empirical, since we can pick out possibly yellow things, if by no other means, in virtue of their extension.

Having explained my theory of empirical properties, I return to my main thesis,

(6) any essence is the conjunction of (infinitely many) empirical properties.

For convenience I will switch to an equivalent ([5]) version of (6),

(6′) Given any two possible particulars x and y, there is an empirical property Q essential to x that y cannot have.

Thanks to (5), to demonstrate (6′) it is sufficient to show,

(7) given any two possible particulars x and y, there is an empirical property *R* that x can have but y cannot.

This works because, once (7) provides us with *R*, we can find the Q needed in (6′) by letting Q be possibly-*R*, which by (5) is empirical.

I regret that I cannot *deduce* (7) from the rules given earlier. But I can prove a result, (8), that I hold to be practically equivalent to (7) — practically equivalent in the sense that we can be sure that the verification procedure for either claim will always be the same.

(8) No matter what *locally finite* number of properties might ever become recognizable, it will be consistent with their empiricality that, given any two possible concrete particulars x and y, some property *R* that x can have but y cannot is empirical.

([5]) (6) entails (6′) because if *no* conjunct *P* in the expression of x's essence *E* provided by (6) were such that x can have *P* but y cannot, then *E*'s range would either exclude x or include y, and in either case *E* would not be x's essence; since all the conjuncts *P* are empirical, (6′) follows. (6′) entails (6) because for every y different from x we can find that empirical Q described in (6′), and then let x's essence be the conjunction of all these Q's; clearly x must, and only x can, possess every Q.

(I will define «locally finite» shortly.) To see the practical equivalence of (7) and (8), recall that a property *P* can be shown nonempirical only by showing that it violates one of the rules with respect to properties that are known to be empirical. For example, *being identical with* x *or not yellow* can be shown nonempirical on grounds that its conjunction with yellowness (known to be empirical because it is recognizable) has a range that is not nonfinite (viz., the singleton containing x), thus violating rule (2). Hence the verificational content, so to speak, of (7) is that no matter what properties become recognizable (and hence become known to be empirical), it will be consistent with their empiricality that, given x and y, some property that x can have but y cannot is empirical. But this is exactly what (8) asserts, *except* that (8) makes this guarantee only so long as the number of recognizable properties is «locally finite.» But if we could be sure that the number of properties known by any one person to be recognizable *will* always be locally finite, then we could be sure that any circumstance that might ever be used to falsify (7) could be used to falsify (8). Since the converse is obvious, the practical equivalence of (7) and (8) I asserted would be established.

I must show, then, that the number of properties known by any one person to be recognizable will always be locally finite. Now I admit that even now a (globally) *infinite* number of properties are known to be recognizable. For, since *being at least two feet tall* and *being less than a foot tall* are recognizable, all the infinitely many properties of the form *being at least n feet tall* (where *n* is a real number between one and two) are now recognizable. For, each can on occasion be empirically known to occur (e.g., when *being at least two feet tall* is known to occur) and on occasion known *not* to occur (e.g., when *being less than a foot tall* is known to occur). But I claim that we can nonetheless be sure that properties known by any one person to be recognizable will always be «locally finite,» albeit possibly infinite, in number. For, note that we can be sure that the two conditions for local finiteness, listed below, hold. a) The set of properties known by any given person to be recognizable will be infinite *only if* it contains an infinite series of properties, ordered by entailment, much like the infinite series of heights just described. More precisely, for every such set, every one of its subsets in which *no member entails another* must be finite. We can be sure this holds, since one can know each property of an infinite set (wherein no member entails another) to be recognizable, only if there are people whose senses he knows collectively to be able not only to recognize but to *distinguish* infinitely many properties. But surely no one will ever know this to be true of the senses of finite beings. b) Each entailment series of known recognizable properties is bounded at both ends; that is, some (instantiable) recognizable property entails, and some (nontrivial) recognizable property is entailed by, all the properties in the series. This, I believe, is evident; for example, there will always be a largest and a smallest (nonzero) height known to be recognizable.

It remain only to prove (8). Suppose for convenience I call a class of properties *adequate* when for every pair of possible concrete particulars x and y, some property in the class can be had by x but not by y. Then, (8) can be restated,

(8′) containing any given locally finite collection $\mathbb{C}$ of (recognizable) properties there is an adequate class $\mathbb{C}^*$ of properties that obeys the rules for empirical properties.

To get $\mathbb{C}^*$ I will first partition the set of possible particulars into *mapping sets,* and then for each mapping set M provide instructions for generating a collection $\mathbb{C}_M$ of properties having ranges in M; finally, I will let $\mathbb{C}^*$ be the union of $\mathbb{C}$ with all the $\mathbb{C}_M$'s.

For any particular x let I_x be the intersection of all ranges of properties in $\mathbb{C}$ that contain x. Define the mapping set M_x as I_x minus the union of all I_y where $y \in I_x$ and $x \notin I_y$. A useful lemma here is that for any $y \in I_x$, $I_y \subset I_x$. For, since I_x is an intersection of ranges all containing y, I_y must be a subset of $I_x \cap I_y$, and thus $I_y \subset I_x$. To show that all the mapping sets indeed partition the set of possible particulars, it is enough to show that any two mapping sets are equal or disjoint (since each M_x contains at least x). So take M_x and M_y for any $x \neq y$. Suppose $M_x \neq M_y$; then $I_x \neq I_y$. Case I: $x, y \in I_x \cap I_y$. But this is impossible, since it means (by the lemma) that

$I_x \subset I_y$ and $I_y \subset I_x$, so that $I_x = I_y$. *Case II:* $x \in I_y$ and $y \notin I_x$ (or vice-versa). Here $I_x \subset I_y$ and thus I_x is disjoint from M_y; it follows that M_x is disjoint from M_y. Case III: $x \notin I_y$ and $y \notin I_x$. For any $z \in I_x \cap I_y$, $I_z \in I_x \cap I_y$ (by the lemma). Thus nothing in $I_x \cap I_y$ is in M_x (or in M_y), and so M_x and M_y are disjoint. This proves that M_x and M_y are disjoint if unequal.

Next, I will show that each M_x is infinite. First, note that if $\mathbb{B}$ is a collection of sets, wherein every containment series is bounded at both ends, (6) then the union of all the sets in $\mathbb{B}$ equals the union of the sets in some subcollection $\mathbb{B}'$ of $\mathbb{B}$ wherein no member contains another. Thus if $\mathbb{B}$ is a subcollection of the ranges belonging to the properties in a locally finite collection of properties, $\mathbb{B}'$ is finite (since property P entails Q just in case Q's range contains P's range). Now it can be shown that since $\mathbb{C}$ is locally finite, so is the collection of properties possibly-P for each P having a range I_y for some y. Now, let $\mathbb{B}'$ be in particular the collection of all I_y where $y \in I_x$ and $x \notin I_y$; thus $\mathbb{B}'$ is finite. But M_x is just I_x minus the union of all the sets in $\mathbb{B}$, which in turn is I_x minus the union of the finitely many sets in $\mathbb{B}'$. This latter is the intersection of all sets of the form $I_x - S$, where $S \in \mathbb{B}'$. Now I_x is an intersection of ranges of properties in $\mathbb{C}$, and so equals the intersection of ranges in a finite subcollection of these ranges. Thus by rules (2*) and (5), possibly-P where P's range is I_x is empirical. The same goes for possibly-Q where Q's range is S, and thus by (2*) and (3*) each $I_x - S$ is the range of an empirical property (viz., of *being possibly P and not possibly Q*) and so by (1) is nonfinite. Hence the interseciotn of the finitely many $(I_x - S)$'s is, by (2*), infinite (since it is nonempty), and this proves that M_x is infinite.

Finally, for any M define $\mathbb{C}_M$ as follows. Set up a $1 - 1$ and onto map f from M to the rationals (I assume that M is countably infinite, but greater generality is possible). For each O

(6) This is defined in analogy with entailment series: a series of sets in B, ordered by containment, is bounded at both ends in B just in case some set in B (not containing all possible particulars) contains, and some (nonempty) set in B is contained by, all the sets in the series. (When I say a set is «ordered» by a relation, I of course mean it is *linearly* ordered).

that is an open rational interval or a finite union or intersection of open rational intervals, let $\mathbb{C}_M$ contain possibly-*P*, where *P*'s range is the inverse image of O under *f*. Thus if $\mathbb{C}^*$ is the union of $\mathbb{C}$ with all $\mathbb{C}_M$'s (plus all finite unions of sets in $\mathbb{C}^*$, for maximality), then $\mathbb{C}^*$ is clearly adequate. For, we need only be concerned with those x's and y's where x is included in no range of a property in $\mathbb{C}$ that excludes y (and vice-versa). But in these cases $I_x = I_y$ and thus $M_x = M_y$. To find a range of a property in $\mathbb{C}^*$ that includes x and excludes y, merely find an open rational interval including $f(x)$ and excluding $f(y)$ (where f is the map chosen for M_x), and its inverse image under f will do. Finally, since a) the mapping sets are all disjoint, and b) open rational intervals, their finite intersections and their complements are all nonfinite, it is easily shown that $\mathbb{C}^*$ satisfies all the rules for empirical properties, and hence (8') is demonstrated.

What I have attempted to do in this paper, but did not quite do, is to deduce from the theory of empirical properties I advanced that the essence of every possible concrete particular can be expressed in an informative way: as a conjunction (albeit an infinite conjunction) of empirical properties. Specifically, since for any x there is for any y different from x an empirical property Q that x must have and y cannot have, the conjunction of all such Q's is the desired essence of x. I did not quite establish this, but for reasons I explained what I did establish is for practical purposes just as good.

Nevertheless my success is only partial, primarily because these empirical properties of mine need only be *possibly* recognizable (in the sense of a logical possibility). In fact, since as I have suggested the number of recognizable properties will always be locally finite, it follows that we will never be in a position to recognize all the infinitely many conjuncts in any essence. Ironically, then, this inability of ours that allows us to say that, for practical purposes, everything has an informative essence, makes it impossible that we ever come to recognize with complete precision any individual's essence.

Vanderbilt University John Hooker