Vagueness, Weak Emergence and Ontological Monism
Terry Horgan, Philosophy Department, University of Arizona

I. Vagueness

A sorites sequence for the vague predicate ‘bald’ and for the putative vague property baldness (with ‘Bi’ symbolizing ‘A man with i hairs on his head is bald’): B(0), B(1), …, B(107).

An argument that is an instance of the sorites paradox, involving this sequence:

1. (n)[B(n) ⊃ B(n+1)] [For any n, if an n-haired guy is bald, then an (n+1)-haired guy is bald.]
2. B(0) [A guy with 0 head-hairs is bald.]
Therefore,
B(107) [A guy with 107 head-hairs is bald.]

Denying premise 1, in classical logic:
‘~ (n)[B(n) ⊃ B(n+1)]’ is logically equivalent to ‘(∃n)[B(n) & ~B(n+1)]’
I.e., ‘It’s not the case that (n)[B(n) ⊃ B(n+1)]’ is logically equivalent to ‘There is an n such that an n-haired guy is bald and an (n+1)-haired guy is not bald’.

Supervaluationism:
A valuation: An “acceptable precisification” of vague terms and concepts.
A supervaluation: a set of all acceptable precisifications of vague terms and concepts.
Truth: A statement is true simpliciter if it is true under all valuations, is false simpliciter if it is false under all valuations, and otherwise is neither true nor false.

Handling the sorites paradox: Assert ‘~ (n)[B(n) ⊃ B(n+1)]’; assert ‘(∃n)[B(n) & ~B(n+1)]’; claim that ‘(∃n)[B(n) & ~B(n+1)]’ has no true instances.

Iterated supervaluationism: treats the category “acceptable precisification of ‘bald’” as vague (and hence subject to supervaluationist semantics); ditto ‘acceptable precisification of “acceptable precisification of ‘bald’”’; etc.

Iterated-supervaluationist semantics for the non-vague category ‘Horganic’, applicable to real numbers:
In any permissible precisification I of the category ‘Horganic’, (i) any real number less than 100 is Horganic, and (ii) any real number greater than 400 is not Horganic.

In any permissible precisification I* of the category “permissible precisification of the category ‘Horganic’”, (i) any real number less than 150 is Horganic under any permissible precisification I of ‘Horganic’ that belongs to I*, and (ii) any real number greater than 350 is not Horganic under any interpretation I of ‘Horganic’ that belongs to I*.

This sequence of stipulations is iterated “Zeno-style” ad infinitum: the successive lower values increase by increments of half the preceding increment (100, 150, 175, 187.5, …), while the successive higher values decrease by the same increments (400, 350, 325, 312.5, …). The upshot is that the overall, iterated-supervaluational, semantical hierarchy fixes definite semantic statuses for all statements of the form “Real number r is Horganic.” Such a statement is true for any real number less than 200; is false for any real number greater than 300; and is neither true nor false for any real number that is greater than or equal to 200 and less than or equal to 300.

The moral is that the machinery of iterated supervaluationism does not by itself prevent sharp category-boundaries. (The predicate ‘Horganic’ is not vague.)

Transvaluationism:

The Difference Condition: Initially in the sorites sequence there are items with a specific status, and every predecessor of an item with this status has the same status. Eventually in the sequence there are items with the polar-opposite status, and every successor of an item with this status has the same status. No item in the sequence has both the initial status and the polar-opposite status.

The Transition Condition: There is no determinate fact of the matter about status-transitions in the sorites sequence. Involves two principles, essentially:
The Individualistic Same-Status Principle (ISS Principle): Each item in the sorites sequence has the same status as its immediate neighbors.

The Collectivistic Status-Indeterminacy Principle (CSI Principle): There is no correct overall distribution of statuses to the items in the sequence. The Difference Condition, ISS Principle, and CSI Principle, are *not mutually satisfiable*. Iterated supervaluationism and its treatment of sorites paradoxes: an *implementation* of transvaluationism (not an alternative to it).

“Involvement” of the Transition Condition, in language and thought, consists of their normative governance over affirmatory practice, exhibited in these two practice-standards:

The Individualistic Status-Attribution Prohibition (ISA Prohibition): Never attribute a specific status to an item in a sorites sequence and also attribute a different, incompatible, status to its immediate neighbor.

The Collectivistic Status-Attribution Prohibition (CSA Prohibition): Never affirm any determinate overall assignment of statuses to the items in a sorites sequence. “Involvement” of the Transition Condition, in ontology (real objects, and real properties and relations), could only be a matter of these items mutually satisfying the Difference Condition, the ISS Principle, and the CSI Principle. But *this is impossible*.

The upshot for ontology (real objects, properties, relations): **ontological vagueness is impossible.**

II. **Weak Emergence**

Contextual semantics

Truth, i.e., semantic correctness, is correspondence between language/thought and the world.

Two broad categories of correspondence:

Direct: In order for a thought/statement to be true, there must be items in the right ontology answering to its naming, predicating, and quantifying constituents.

(E.g., Mount Whitney is tall. E.g., there are infinitely many natural numbers. The world must contain items answering to these terms/concepts.)

Indirect: Although the world has to be a certain way in order for a thought/statement to be true, the world need not include items answering to the naming, predicating, or quantifying constituents in the thought/statement. (E.g., Mt. Whitney, tallness.) Standards of semantic correctness (i.e., truth) are contextually variable. Occasionally are direct. Normally are indirect. In ordinary discourse, and in lots of scientific discourse.

Thoughts/statements involving vague posits:

Given transvaluationism and contextual semantics, they are only true under *indirect-correspondence* semantic standards.

Under the contextually operative semantic standards under which they are true, they do not carry *ontological commitment* to their posits.

Emergence: Many statements involving vague posits are *literally true.*

Weakness of such emergence:

The literal truth of such statements does not require the right ontology to include vague items. The right ontology does *not* include (and cannot) include vague objects, properties, or relations. ‘Weakly emergent entity’ is *not an ontological status.* It is a category that (i) is applicable in contexts governed by indirect-correspondence semantic standards, and also (ii) signals (in those contexts) that one’s thought/discourse is operating in a non-ontologically-committing way.

E.g.: ‘Electrons are weakly emergent entities’ is true under contextually operative indirect-correspondence semantic standards, while also signaling that the contextually operative semantic standards work in such a way one is not committed to claiming that the right ontology includes entities answering to the category ‘electron’.
### III. Ontological Monism

The “Special Composition Question” (SCQ) of Peter Van Inwagen: When do a bunch of real things constitute a composite real thing?

No systematic, general, answer does well at recovering common-sense beliefs about this matter. This generates pressure toward some extremist view.

- **Universalism**: Any bunch of real things collectively constitute a real thing.
- **Non-compositionalism**: There are only real “simples,” which never compose to constitute a real thing.

Snobjects, sobjects, bobject.

- **Snobjects**: Objects that are perfectly precise in all respects.
- **Sobjects**: Objects that are vague in some respects.
- **The bobject**: The whole cosmos.

**Ontology à la Carte.** The ontological menu that results from (i) the impossibility of ontological vagueness, (ii) the need for a systematic, general answer to the SCQ, and (iii) attention to posits of physics:

<table>
<thead>
<tr>
<th>candidates for a plausible austere ontology</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) snobjective non-compositionalism</td>
</tr>
<tr>
<td>(a) regions</td>
</tr>
<tr>
<td>(1a) OK</td>
</tr>
<tr>
<td>(2a) OK</td>
</tr>
</tbody>
</table>

So one is now left with three viable candidate-ontologies for concrete particulars: (1) the version of snobjective non-compositionalism that countenances only spatiotemporal points (*pointillism*); (2) the version of snobjective universalism that countenances only snobjective spatiotemporal regions, including points (*universalist snobjective regionalism*); and (3) bobjectivism.

Pointillism would have to say that mental properties are instantiated by spatiotemporal *points*, which would mean that mental properties are instantiated *vastly* many more often than they are normally thought to be.

Wildly counterintuitive, and so utterly ad hoc theoretically.

So pointillism falls out of the running, vis-à-vis its two competitors.

**Bobjectivism vs. univeralist snobjective regionalism:**

- **Bobjectivism** gets by with one concrete particular, at the price of a whole host of spatiotemporally local manners of property-instantiation.
- **Universalist snobjective regionalism** gets by with instantiation simpliciter, at the price of spatiotemporal regions that compose without restriction.

A reasonable-looking view, *prima facie*: the parsimony-related benefits and costs of the one position essentially just offset those of the other one.

**Three kinds of theoretical parsimony:**

- **Modal parsimony**: concerns the range of possibilities treated as *actual*.
- **Subvenience parsimony**: concerns the range of items treated as *ontologically fundamental*.
- **Deep parsimony**: concerns the range of items treated as *both* actual and fundamental.
Considerations favoring blobjectivism over univeralist snobjective regionalism:

According to US regionalism, all posited regions are actual; they are all present within the actual world. They are also ontologically basic; they are subvenient entities. Plausibly, a scientifically adequate blobjectivist metaphysic of the actual world would treat comparatively few properties, and comparatively few spatiotemporally local instantiation-manners, as both actual and ontologically basic. Thus, blobjectivism scores higher than US regionalism, in terms of comparative degree of deep ontological parsimony.

Prospects for a decisive victory for blobjectivism:

Enter: considerations not from the armchair but from the nature of the best current theoretical physics.

E.g.: Richard Healey’s draft paper arguing that the best ontological interpretation of quantum field theories is a blobjectivist interpretation.

Some References

T. Horgan and M. Potrč, Blobjectivism and Indirect Correspondence, Facta Philosophica, 2 (2000), 249-70.