Phil. 164: Metaphysics
Oct. 2, 2023

Lecture 9 – Paradoxes of Ground

I. Fine on the Grounds of Existential Generalizations

Recall Rosen's "introduction rule" (i.e. principle specifying sufficient grounds) for existential generalizations:

(∃) If $\varphi(a)$, then $[(\exists x)\varphi(x)] \leftarrow [\varphi(a)]$.

Fine's objection: let '$\varphi(x)$' be 'x = Flo'. Flo has this property, and she has it necessarily. Since full grounds necessitate that which they ground, it follows from (∃) that, necessarily, $(\exists x)(x = \text{Flo})$. So Flo necessarily exists!

Instead, Fine prefers the following introduction rule for existential generalizations:

(∃I) If $\varphi(a)$ and a exists, then $[(\exists x)\varphi(x)] \leftarrow [\varphi(a)]$, [$a$ exists].

But Fine insists we should not hold that [a exists] = $[(\exists x)(x = a)]$, lest we violate the irreflexivity of grounding when we let '$\varphi(x)$' be '$(\exists x)(x = a)$'.

II. Fine on the Grounds of Universal Generalizations

Recall Rosen's introduction rule for universal generalizations in the special case of accidental regularities:

($\forall_4$) If $(\forall x)Fx$ and $a_1, a_2, \ldots$ are all the individuals that there are, then $[(\forall x)Fx] \leftarrow [Fa_1], [Fa_2], \ldots, [(\forall x)(x = a_1 \lor x = a_2 \lor \ldots)]$ (where this final fact is ungrounded).

Fine prefers a view on which a version of this principle holds for *all* universal generalizations, including $[(\forall x)(x = a_1 \lor x = a_2 \lor \ldots)]$. One version of such an introduction rule:

(∀I) If $(\forall x)Fx$ and $T(a_1, a_2, \ldots)$, then $[(\forall x)Fx] \leftarrow [Fa_1], [Fa_2], \ldots, [T(a_1, a_2, \ldots)]$,

where $[T(a_1, a_2, \ldots)]$ is the totality fact *that $a_1, a_2, \ldots$ are all the individuals that there are,* and $[T(a_1, a_2, \ldots)] \neq [(\forall x)(x = a_1 \lor x = a_2 \lor \ldots)]$.

(So, on this proposal, even though $[T(a_1, a_2, \ldots)]$ and $[(\forall x)(x = a_1 \lor x = a_2 \lor \ldots)]$ necessarily co-obtain, they are distinct facts that differ with respect to their grounds.)

III. Fine on the Grounds of Conjunctions

Like Rosen, Fine endorses the following introduction rule for conjunction:

(&I) If p and q, then $[p \,\&\, q] \leftarrow [p], [q]$.

He adds to this an "elimination rule" (i.e. principle specifying necessary grounds) for conjunction:

(&E) If $[p \,\&\, q] \leftarrow \Gamma$, then there is a (strict) grounding path from Γ to $[p \,\&\, q]$ whose final grounding link is $[[p \,\&\, q] \leftarrow [p], [q]]$.

These principles are plausible in many cases, especially when $[p]$ and $[q]$ have nothing to do with each other, but it is not clear to me that they hold in all cases.

Here is a potential counterexample:

> Prof. Hall, in his capacity as Director of Undergraduate Studies, asks me during the summer whether I would like PHIL 164 this semester to meet on Mondays and Wednesdays or to meet on Tuesdays and Thursdays. When I reply, "Mondays and Wednesdays," doesn't my having made this decision (together possibly with my having the authority to decide the matter) directly make it the case that the conjunctive fact [PHIL 164 meets on Mondays and Wednesdays] obtains, without first making each conjunct obtain and only indirectly making the conjunction obtain?

Here is a similar potential counterexample to Fine's/Rosen's introduction rule for existential generalizations:

> Suppose you are all running a race that works as follows. You run for a really long time. At some point, the king decrees that the race is over. When he decrees this, whomever is in the lead wins. If several people are tied for the lead, they are all winners. If no one is in the lead (perhaps because all the runners have died), the king is the winner. Then we have:
>
> > [Someone won the race] ← [The king decreed that the race is over].
> >
> > [Flo won the race] ← [The king decreed that the race is over], [Flo was in the lead when the king decreed this].
>
> But it's not clear we need to hold, in addition, that [Someone won the race] ← [Flo won the race].

The general thought behind these counterexamples: in social-ontology cases in which our decisions (or actions, or attitudes) make something the case, it's not clear that our decisions (or actions, or attitudes) always immediately ground a group of atomic facts which then make all the logically-more-complex facts obtain.

IV. Fine's Paradoxes of Ground

Another reason to possibly rethink some of the core principles of Fine's logic of grounding come from a number of paradoxes that arise from them, together with some other seemingly innocuous assumptions.

Fine's existential grounding paradox for propositions:

Assumptions:

(Existential Truth)	Something is true.
(Propositional Existence)	The proposition <*p*> exists.
(Propositional Grounding)	If *p* and <*p*> exists, then [<*p*> is true] ← [*p*].
(Existential Grounding)	If $\varphi(a)$ and *a* exists, then [$(\exists x)\varphi(x)$] ← [$\varphi(a)$], [*a* exists].

Statement of paradox:

> Something is true, by Particular Existence. By Propositional Existence, <Something is true> exists. So, by Propositional Grounding, [<Something is true> is true] ← [Something is true]. But, by Existential Grounding, [Something is true] ← [<Something is true> is true], [<Something is true> exists]. So we have a violation of the asymmetry of grounding.

(We can also formulate similar paradoxes where instead of considering whether *some proposition is true*, we consider whether *some fact obtains* or *some sentence is true*.)

Fine's universal grounding paradox for propositions:

Assumptions:

(Universal Middle)	Every proposition is either true or not true.
(Propositional Existence)	The proposition <*p*> exists.
(Propositional Grounding)	If *p* and <*p*> exists, then [<*p*> is true] ← [*p*].
(Disjunctive Grounding)	If *p*, then [$p \vee q$] ← [*p*].
(Universal Grounding)	If $(\forall x)\varphi(x)$ and *a* exists, then [$(\forall x)\varphi(x)$] ↤ [$\varphi(a)$].

Statement of paradox:

> Every proposition is either true or not true, by Universal Middle. By Propositional Existence, <Every proposition is either true or not true> exists. Call this proposition <p_0>. By Propositional Grounding, [<p_0> is true] ← [p_0]. And, by Disjunctive Grounding, [<p_0> is either true or not true] ← [<p_0> is true]. So, by transitivity, [<p_0> is either true or not true] ← [p_0]. But, by Universal Grounding, [p_0] ↤ [<p_0> is true or not true]. So we have a violation of the asymmetry of partial grounding.