

Frege's *Foundations of Arithmetic*, week 2

FA §9

1. Addition has applications in which there can be no question of heaps or aggregates, or of the relationship between a physical body and its parts.
2. [If addition corresponds to a physical relationship, it does not have applications where these physical relationships do not apply.]
3. So, addition does not in general correspond to any physical relationship.
4. [If the general laws of addition are laws of nature, then addition corresponds to a physical relationship.]
5. So the general laws of addition are not laws of nature.

FA §10a

1. Induction is only reliable in fields where there is uniformity between different cases.
2. There is no uniformity between different cases of individual numbers.
3. So induction is not a reliable way to discover facts about individual numbers.

FA §10b

1. Induction can only be justified by probability.
2. Probability presupposes arithmetical laws.
3. [If induction can only be justified by something that presupposes arithmetical laws, arithmetical laws cannot be justified by induction.]
4. [So arithmetical laws are not justified by induction.]

FA §22

1. Physical properties belong to objects independently of any choice of ours.
2. Numbers cannot be assigned to objects independently of any choice of ours.
3. So numbers are not physical properties.

FA § 24

1. What is by nature sensible does not occur in what is non-sensible.
2. If something sensible corresponds to the word “three”, it occurs in something non-sensible.
3. So nothing sensible corresponds to the word “three”.