# A sample of paradoxa arising in Pluralism

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December 2022

#### Introduction

In Chapter 10 of her book "Pluralism in Mathematics" Michele Friend gives a sample of three paradoxa arising in Pluralism: the external, the internal and the transcendental paradoxon. These three paradoxa shall be discussed in this essay.

### The external paradoxon

The external paradoxon arises because Pluralism is tolerant towards other philosophies of mathematics even though they might not be tolerant towards Pluralism. As a result, Pluralism itself runs into a paradoxon (the external paradoxon) as it seems to suggest both to believe itself is a reasonable philosophy of mathematics and that it itself is not a proper philosophy of mathematics. The first suggestion is fairly obvious because if a philosophy does not suggest to believe in itself it better be non-existent. The second suggestion is obtained by noticing that Pluralism tolerates other philosophies of mathematics which argue that they themselves are the only real philosophy of mathematics. Therefore, these other philosophies would argue Pluralism is a wrong philosophy and because Pluralism tolerates this, it seems to run into the paradoxon of stating itself is a reasonable philosophy and at the same time that it is not.

Friend suggests to resolve this paradoxon by, firstly, acknowledging that tolerance towards statements of other philosophies does not imply their correctness and, secondly, introducing an agnosticism of Pluralism towards dogmatic statements in other philosophies which Pluralism tries to tolerate. Agnosticism is meant in the sense "I don't know"(instead of "I don't care") here and is open to progress: if we should somewhen come across a good argument for a philosophy really being the true one (including its dogmatic statements) the Pluralist is free to change his point of view easily because he by now has been agnostic about these statements. However, when taking this new position he shall bear in mind that he once has been a Pluralist and if there should be reasonable arguments against his new position at some point, he can take a step back and take the Pluralist approach again. In particular, he will be agnostic about all the dogmatic statements again.

### The internal paradoxon

The internal paradoxon comes up when taking into account that Pluralism rejects dogmatism, but at the same time wants to seriously consider other philosphies and, therefore, has established some protocols and attitudes which are used to doing so. However, this seems to directly lead to Pluralism being dogmatic (on protocols and attitudes used when looking at other philosophies).

This paradoxon in my opinion is resolved even more banal than the external paradoxon: Friend simply suggests to strictly distinguish between a doxa, a statement which is to be seen as true without any reasoning and thought to also being a truth at any time yet to come, and a norm which is thought of being a common attitude towards something which is possibly assessed and reformulated/renewed at any time and,

in particular, is not fixed, but as said before just common practice. As these protocols and attitudes used by Pluralists are in her opinion to be seen as norms, the internal paradoxon is immediately resolved.

## The transcendental paradoxon

The transcendental paradoxon concerns the fact that Pluralism would like to take all philosophies of mathematics serious. By assuming this and using the inclosure schema we run into a contradiction, since the set of all collections of characteristics in the philosophy of mathematics would need to both be a combination of characteristics found in philosophies of mathematics (transcendency) and at the same time it cannot be such a combination (closure). In short, the paradoxon is that we can always find a pluralist philosophy that contains the one we have right now, but is strictly bigger. Therefore, there is no global pluralist philosophy of mathematics.

Friend suggests to resolve this paradoxon by stating that we have a pluralist philosophy at a time and may or even should reconsider it in the sense that we should ask ourselves whether or not it is time to extend it regularly. However, she also argues that the intension will always stay the same: evaluating all the proposed philosophies of mathematics and therefore, it makes sense to stick to the pluralist philosophy by simply seeing it as a philosophy not necessarily fixed over time.