Kripke: Rigid Designators

An ambiguity in the definition?

Which of these three definitions is the intended one?

1. \( \alpha \) is rigid\(_1\) iff \( \alpha \) designates the same object in every possible world.
2. \( \alpha \) is rigid\(_2\) iff \( \alpha \) designates the same object in every possible world in which that object exists.
3. \( \alpha \) is rigid\(_3\) iff \( \alpha \) designates the same object in every possible world in which \( \alpha \) designates anything at all.

Some test cases:

In which sense(s) are these designators rigid?

- ‘The inventor of bifocals’
- ‘Richard Milhous Nixon’
- ‘17’
- ‘The politician Richard Milhous Nixon’, i.e., \( t \ x \ (x \text{ is a politician} \land x = \text{Nixon}) \)
- ‘The positive square root of 16’

Answers

- ‘The inventor of bifocals’ is not rigid in any sense. It designates Franklin in the actual world and Spinoza in some other possible world.
- ‘Richard Milhous Nixon’ is rigid\(_3\) (it designates the same thing—Nixon—in every world in which Nixon exists). Even if he hadn’t been named ‘Nixon’, he would still be the same man. It is also rigid\(_3\). Whether it is rigid\(_1\) depends on whether a designator can designate an object with respect to a world in which that object does not exist.
- ‘17’ is rigid in all three senses, since numbers (if they exist at all) exist necessarily.

So far, it looks like names are rigid (in every sense) and descriptions are non-rigid (in every sense). But this is not so.

- ‘The politician Richard Milhous Nixon’ is not rigid\(_1\), since there are worlds in which it does not denote anything at all. And it is not rigid\(_2\), since it does not designate Nixon in worlds in which Nixon exists but is not political. But it is rigid\(_3\), since it designates Nixon in any world in which it designates anything. So rigid\(_3\) is not Kripke’s notion of rigidity.
- ‘The positive square root of 16’ is rigid in every sense. It denotes the number 4 in every world in which that number exists, i.e., in every world, and hence in every world in which it has a designation.