to use an artifact in the established way, or refuse to use a novel artifact. But these failures do not detract from the many successful communications of new use plans: most people in fact use their car or toaster exactly as described in the manual.

This leaves the steering-the-whale point untouched. Perhaps designers just follow the users' lead and (superfluously) communicate the traditional use plan. However, the source of the use plans communicated by the designers, and their success in changing user behavior, is not of primary importance to the use-plan analysis. What matters is the justification and communication of these plans: designers should guarantee the rationality of the plans, meaning that they could, in principle, underwrite and endorse existing plans with some small changes.[9] This may decrease the practical impact of their communicative efforts, but it does not affect their evaluative relevance. If an artifact fails to work as expected, and a user complains to the manufacturer, the latter may in some cases point out that the user failed to conform to changes in the use plan. Suppose, for instance, that someone trades in her old car for a new type, exactly the same as the old apart from its being outfitted with a catalytic converter. The driver uses the car exactly as her old one, including filling it with leaded fuel. If she then would complain to the car dealer, after some time, about the poor performance of the car, it might be pointed out to her that she used the car incorrectly: she should have changed her use plan to one that included filling the tank with unleaded fuel, because the use of leaded fuel clogged the converter and reduced the performance of the car.

That poor performance, related to changes in the use plan, may be blamed on the user does not, of course, discharge designers and manufacturers from the responsibility of communicating such changes to the users: if the car owner described above had no way of knowing that she was to use unleaded fuel, she cannot be blamed for the poor performance of her car. However, that designers have this communicative responsibility vindicates the use-plan analysis instead of undermining it.[10]

3.4 Unknown Designers

Many artifacts, such as camera cell phones, are state-of-the-art gadgets. These are typically manufactured by companies that clearly communicate, and legally protect, the origins of the artifacts and their use plans. Yet the origins of many other artifacts

[9] An agent who adopts an existing use plan and communicates it without making any changes in either the plan or the artifacts involved is not a designer, neither intuitively nor on the use-plan analysis.

[10] Real-life cases are considerably more complicated than suggested by either the use-plan analysis as described here, or by accounts that emphasize the inertia of practices. Take, for instance, recent lawsuits regarding certain types of "light" cigarettes. Here, the responsibility of manufacturers to communicate that these cigarettes are as detrimental to the smoker's health as other types must be weighed against the responsibility of users to care for their own health, common knowledge regarding the effects of smoking, etc. The use-plan analysis may provide a framework for analyzing such cases; it does not offer an easy way to make decisions regarding them.

and plans are less well advertised. Pots, rafts, and hairpins have seen scores of generations of use, and were undoubtedly designed first by some agent or, possibly, by several agents simultaneously. But archaeology is not an exact science in the sense that it can pinpoint the precise moment and the identity and intentions of the original designer of these time-honored utensils.

More importantly, establishing these facts may be of historical interest, but it is irrelevant from a practical perspective. Some of us know how to use rafts, for various purposes, and they know how to instruct others in their use, wherever, whenever and by whomever rafts were originally designed. Neither the designer's identity nor his or her intentions appear to have any relevance for evaluating and understanding the existing practice of rafting.[11] And the reason is not that the designer's intentions are as yet unknown, but that they would be irrelevant even if they were somehow revealed.

There are two reasons why this observation about artifact use may be acknowledged without giving up intentionalism. One is a phenomenon that might be called epistemic or evaluative screening. Throughout history, people have used pots, rafts, and hairpins, often successfully and sometimes unsuccessfully. Such successful use provides evidence for the rationality of a use plan, evidence that is at least as strong as the considerations that might have guided the designer (Houkes, 2006). This means that, as far as the quality of the use plan is concerned, the designer's communications have become largely irrelevant. Initially, users might have relied on the designer's word that using an artifact in a certain way would be effective, but this testimonial evidence has been supplemented and replaced by the experience of users. However, as long as the executed use plan matches the designed one, the original communication still determines the use of the artifact, and the evaluation of this use, albeit indirectly. Of course, generations of users will typically change the way of using traditional artifacts; but this creative-use phenomenon was already found not to undermine intentionalism.[12]

There is another reason why unknown designers do not threaten use-plan intentionalism. Toothbrushes, to give one example, have been in use for some time. Yet most people do not use a toothbrush that has been passed down the generations. This "paradox" is easily resolved by distinguishing an artifact type from individual artifact tokens: I bought the token standing in a glass in my bathroom some months ago, while the type has been in existence for a significantly longer time. And distinctions do not end there. In any well-stocked drugstore or supermarket, you have a choice between several types of toothbrushes. These may differ in the stiffness of their hairs (ranging from "soft", through "medium", to "hard"); they may or may not have an adjustable head; they come in different age categories (ranging from

[11] This argument suggests an anti-intentionalist account of the history of technology that stresses the way in which practices of artifact use have gradually emerged, stabilized, adapted and/or disappeared in the course of time. Such accounts of the history of technology often take an evolutionist form (see, e.g., Basalla, 1988).

[12] Note that, if the user of an artifact constructs and communicates a different use plan, she counts as a designer, but her testimonial evidence is, again, rapidly screened-off and replaced by user experience with the new use plan.