# EFFORT AND DISPLEASURE IN PEOPLE WHO ARE HARD OF HEARING

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Abstract

Listening effort helps explain why people who are hard of hearing are prone to fatigue and social withdrawal. However, a *one-factor model* that cites only effort due to hardness of hearing is insufficient as there are many who lead happy lives despite their disability. This paper explores other contributory factors, in particular motivational arousal and pleasure.

The theory of rational motivational arousal predicts that some people forego listening comprehension because they believe it to be impossible and hence worth no effort at all. This is problematic. Why should the listening task be rated this way, given the availability of aids that reduce its difficulty? Two additional factors narrow the explanatory gap. First, we separate the listening task from the benefit derived as a consequence. The latter is temporally more distant, and is *discounted* as a result. The second factor is *displeasure* attributed to the listening task, which increases listening cost.

Many who are hard of hearing enjoy social interaction. In such cases, the actual activity of listening is a benefit, not a cost. These people also reap the benefits of listening, but do not have to balance these against the displeasure of the task. It is suggested that if *motivational harmony* can be induced by training in somebody who is hard of hearing, then the obstacle to motivational arousal would be removed. This suggests a modified goal for health care professionals. Don’t just teach those who are hard of hearing how to use hearing assistance devices. Teach them how to do so with pleasure and enjoyment.

*Keywords*

Listening effort, listening cost, listening fatigue, social withdrawal, cost-benefit analysis, motivational arousal, pleasure

*Definitions*

*Listening effort* Mental resources used in order to understand speech by listening.

*Listening fatigue* Depletion of mental resources due to magnitude of listening effort.

*Cost/Benefit* The negative (cost) or positive (benefit) value to a person of some state of affairs. Costs and benefits are meant to be comparable, so that costs can be subtracted from benefits.

*Net Value* The benefit of an action or situation minus its cost. Net value can be negative.

*Listening value* The net value of listening. Listening *effort* and listening *value* are importantly different. The same amount of listening *effort* can have greater or lesser value, depending on the dispositions of the listener and the circumstances in which the task is attempted.

*One factor model* A model that attempts to explain social withdrawal in people who are hard of hearing by appealing to listening fatigue only.

*Motivational Arousal* The maximum cost a person is willing to expend in order to accomplish a task.

*Cognitive Bias* A mental attitude that systematically assigns greater value to one type of situation or action over another.

*Future Discounting* A cognitive bias that reduces the estimated value of situations that are more distant in the future relative to those that are closer

*Pleasure* A conscious mental state that increases the value of the state of affairs that gives rise to it.

*Motivational Harmony* A situation in which a person enjoys effort (E) that leads to a benefit (B), with the result that the net value of E is greater than that of its consequential benefit B.

## EFFORT AND DISPLEASURE IN PEOPLE WHO ARE HARD OF HEARING

People who are hard of hearing are statistically more likely than peers with normal hearing to be affected by a variety of emotional and social challenges. These challenges may be linked to the increased level of *listening effort* they must exercise in interpersonal communication. (See Rudner, this issue, and references therein. See Definitions above for all terms italicized in first use.) But these challenges are more difficult to explain than this. Listening effort is a vital component, but it cannot be the whole story regarding the detrimental effects of hardness of hearing. A *one-factor model* will not work. In this paper, I concentrate on another factor, *pleasure* or, in this case, displeasure. There is a special kind of pleasure that motivates and facilitates hard cognitive effort; it reduces listening *cost* without reducing listening *effort*. The absence of this kind of pleasure plays a role in the social hardships that individuals who are hard of hearing suffer. I will ask whether there are ways to remedy this deficit.

A caveat to begin: as a philosopher, I will develop my theme non-empirically; I have no clinical or experimental results to offer. Nevertheless, I believe that what I have to say has testable empirical and, it is possible, also therapeutic consequences.

### Detrimental Effort in People who are Hard of Hearing: The Problem

People with hearing loss experience, in greater proportions than others, a variety of other health problems and poorer quality of life. (For a review see Pichora-Fuller, Mick & Reed 2015). Significantly, they are less able to multi-task in situations that involve linguistic interactions with others; this indicates increased perceptual and cognitive load, which uses up cognitive spare capacity. There are emotional challenges as well. People who are hard of hearing experience stress and proportionately take more sick-leave (Kramer et. al. 2006). They are, more often than others, depressed and socially withdrawn. (For a review see Arlinger, 2003). Many researchers think that these conditions are linked. (See Richter, this issue, for references.) Greater effort results in fatigue, frustration, and a sharp diminution of social reward. This, it is sometimes said, causes some to be less socially motivated. Because they become socially withdrawn, they run the risk of depression.

Promising though *listening fatigue* is as a unifying posit, it is incomplete. Start with this simple fact: the attempt to hear and understand is only one source of cognitive load in a conversation. A person with normal hearing may still be subject to heavy cognitive load while engaging in colloquy. You may have to work hard to keep up your end in a symposium with brilliant colleagues. It does not follow that you will become frustrated or withdraw from such situations. Indeed, it is often quite the contrary. Exactly the same is true of the many people with hearing loss who are happily and gainfully occupied with rewarding careers and social relationships. The effort they have to exercise in comprehending speech, including both auditory and visual speech, is often very high, and they are prone to mental fatigue. This does not prevent them from leading fulfilled lives.

We often welcome intellectual effort; it often makes us happy and fulfilled. Students do not become depressed or take a lot of sick-leave for the sole reason that their lectures are hard to follow. (Some do, of course, but by no means all, or even a majority.) In a one-factor model, many people who are hard of hearing do just this. Admittedly, the kinds of difficulty these two groups face are very different; people who are hard of hearing contend with perceptual difficulty, whereas students contend with intellectual difficulty. Nevertheless, the difference is puzzling. Why does the fatigue that arises from one kind of effort lead to frustration and withdrawal and the other not?

On the other side of the coin, as mentioned earlier, not all people who are hard of hearing dislike their speech-involving interactions. The Shakespeare scholar, Horace Howard Furness, immortalized by the famous photograph of him demonstrating his ear trumpet to his grandson (Figure 1), enjoyed intellectual conversation in learned gatherings, in which he participated with the aid of the said instrument. He formed a deep friendship with the wealthy Shakespeare enthusiasts, Henry and Emily Folger (the benefactors of the Folger Shakespeare Library in Washington D.C):

Every year the Folgers took the train from New York to Philadelphia for a visit of “bookish gossip.” Their discussions centered on textual analysis of the Bard's writing as well as on its appreciation. Furness looked forward to these sessions, always uncasing his trumpet to announce the Folgers' arrival as soon as he spotted them walking up the drive. He wrote that “the sight of husband and wife, both eager in the same pursuit, always touches me deeply.”[[1]](#footnote-1)

The perceptual, attentional, and intellectual effort of conversing intensely about Shakespeare did not deter Furness, even though he used a primitive device. If you had asked him why, he would presumably have said that the intellectual reward made the effort of listening worthwhile. For him, listening *effort* is high, but listening *value* is also high because he enjoys exerting the effort. Why don’t all people who are hard of hearing react this way? Why do many become frustrated and withdrawn?

🡨----Insert Figure 1 somewhere here----- (Caption: **Figure 1: H. H . Furness demonstrating his ear trumpet to his grandson. (By permission of the University of Pennsylvania Library)**

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Here, then, are two reasons to think that cognitive effort is insufficient to explain the emotional and social difficulties of people who are hard of hearing. The first is that many people other than those who are hard of hearing have to exercise a great deal of cognitive effort to achieve their goals. This effort is not always pleasant in itself—the tough slog of mastering new material is rarely fun—but people undertake it in order to achieve a greater good. The second is that cognitive effort *can* be pleasant and self-motivating even among those who are hard of hearing.

### Does Rational Motivation Theory Solve the Problem?

Motivation and reward is to be understood in the light of *costs* and *benefits*—not just in terms of effort, as a one-factor model might suggest. (See Richter, this volume, for discussion.) The cost of an action is its *net value* to the agent. Somebody might have to exert considerable effort to perform an action; this is a cost. Yet she may enjoy exerting this benefit; this is an offsetting benefit that increases net value. Alternatively, she might dislike the exertion of effort; this would decrease its value even below the cost of the mental resources expended. Finally, the action has consequences down the line, and these may be beneficial or detrimental. These too must be added in. They are further contributors to net value, which is the sum of all value contributions flowing from an action.

Net value helps explain why high levels of effort can sometimes be fulfilling rather than frustrating. Someone who is conscious of having achieved a large benefit through extremely taxing effort may feel emotionally gratified despite the fatigue that results from the effort that was needed. Remember Neville Chamberlain, who returned in September 1938 from his negotiations with Hitler in Munich, declaring that he was “tired, but pleasantly tired,” having achieved, as he tragically believed, “peace in our time.” Talking to Hitler was effortful and the cost of this effort was increased by the stress of the negotiations. But the consequence arising was hugely beneficial (so Chamberlain was wrongly led to believe). He thought he had realized a huge benefit, and so he was happy. (The case of Furness, the happy Shakespeare scholar, is different from this, as we shall see.)

Now, here is a broad principle of rational motivation. People are motivated to undertake demanding activities when cost of the effort is necessary to produce a greater benefit—satisfying some need or desire, or avoiding a bad situation. Though there is a net gain whenever the benefit exceeds the cost, a person is motivated to expend only the *least* cost needed to achieve a benefit, provided that the cost of the effort does not exceed the benefit achieved.

* You *would* pay up to $100 for that sweater; this is how much it is worth to you. But if it is on sale for $80, the extra $20 is wasted—it buys no additional advantage. If you pay $100, you will regret it, even though the benefit you realized was worth the cost to you.
* By the same token, when a task is easy, a person is not motivated to put out much effort; no matter how great the benefit, all effort above the minimum required is wasted. The benefits of breathing are enormous, but breathing itself is easy; this is why you devote very little effort to it—unless for some reason it becomes difficult.

As Brehm and Self (1989) write, “when little effort is needed, motivational arousal should be low no matter how great the need or how valuable the potential outcome.”

*Motivational arousal*, understood as the maximum cost a person is willing to expend, increases with the difficulty of the task. (There are physiological indicators of arousal, which are useful in empirical studies of motivation, but my discussion will remain at the notional level.) At the point where the cost that needs to be expended becomes greater than the benefit realized, the subject’s motivational arousal is reduced to zero. (If the sweater is worth $100 to you, and the sticker price is $101, you are not willing to spend anything at all.) In parallel, if a task is *impossible*, then the benefit cannot be realized regardless of how much you spend. In this case too, the person is not motivated at all; her motivational arousal is reduced to zero. In either case, *any* effort is wasted, and motivational arousal falls to zero.

The situations we discussed earlier seem, then, to divide along the following lines.

*Positive* Furness has to expend considerable effort to participate in conversation, more than his interlocutors. But he enjoys exerting himself in this way. This enjoyment is a benefit, and it reduces his net listening cost. *In addition to the enjoyment of listening*, there is the benefit that arises out of listening—a better understanding of Shakespeare, the cementing of friendships, etc. He realizes that this is greater in value than his listening cost. Moreover, he couldn’t get the benefit without exerting this considerable effort. So he listens effortfully, and does so happily.

*Positive* For an undergraduate studying mathematical analysis, the effort is painful and costly. However, she puts out as much costly effort as is needed, because the reward she reaps is even greater. The difference is that she does not enjoy the studying. This case is more like the Chamberlain case than the Furness case. The cost of the activity is not mitigated by enjoyment, but it is still justified by the benefit that eventuates.

*Negative* A person with age-related hearing loss is at a noisy party. There might be some small benefit to be gained from conversing with a callow-looking youth, but she does not think it is worth the listening cost. So she does not engage.

*Negative* A person wearing a hearing aid considers it *impossible* to listen to the work-related conversation around him. Listening would be highly beneficial, but he thinks that understanding is impossible. Any listening effort is wasted, no matter how small the cost. So he withdraws.

*Listening fatigue* results from something like the second positive outcome above. It results from the high cost of a difficult task undertaken for the benefit that it provides. Repeated episodes of fatigue often lead people to move to something like one of the negative outcomes. That is, they either estimate the benefit of listening effort to be too low to be worth the cost, or they come to overestimate the difficulty of the task—in the limit, regarding it to be impossible.

Note that in all of the above cases, it is *perceived* cost and *perceived* benefit that predicts motivational arousal. Individuals operate on their own estimates of costs and benefits, right or wrong. They do not operate on actual costs and benefits. This is important to keep in mind.

### Discounting the Future

We are now in a position to pose the theoretical problem more sharply. Why do the participants in the negative scenarios assess their situations as they do? Their assumptions seem to be poorly supported. What is the explanation?

First, it is implausible to believe that social interaction has low value across the board. If the benefit was indeed small, then those who are hard of hearing would not suffer from its absence—and clearly, many do.

 Second, it is hard to credit that listening is impossible across the board. After all, hearing aids benefit many, and in most countries with a public health care system, they are available at reduced cost, in some, almost free of charge. Even if hearing aids are unpleasant as listening devices and hard to learn to use, as they are often reported to be, and even if they are embarrassing to wear, aren’t these drawbacks a cost worth paying relative to the reward of participating in human interaction? Yet only about one in seven of about 30 million adults with hearing loss in the USA who are over the age of 50 use hearing aids. In the UK, where hearing aids are provided at almost zero cost, the figures are similar, with only one in five of those who might benefit seeking help for hearing problems and even those who seek help often wait a decade or more before doing so (Davis et al. 2007).

The question is this: granted that the perceptual and cognitive load of social interaction is very high for people who are hard of hearing, why do relatively few take measures to overcome the obstacles? What is the operative difference between the positive and the negative cases sketched above?

The conundrum is of a type that, in philosophical psychology, is assimilated to the following kind of case. Alex knows that drinking a whole bottle of wine every day will have bad long-term consequences for her health. But she does. Why? Shirin knows that the cost of studying French for two hours a day is high, but still it is (a) necessary for learning French and (b) counts for far less than the resulting benefit. Yet she does not invest the needed cost. Why?

Philosophers treat of these familiar examples as *cognitive biases* in favour of outcomes that are close in time relative to those in the more distant future (Ainslie 2001). We tend, they say, to discount benefits and costs in the distant future relative to those in the near future. Joel Anderson (Utrecht) and Joseph Heath (Toronto) use bedtime procrastination as an illustration. (A report concerning Anderson’s work can be found here: <http://tinyurl.com/p5wch9d>). Heath (personal communication) says that the “mild aversiveness of the bedtime routine (e.g., flossing, brushing) leads people to stay up too late, with serious consequences both the next day and in the long term.” Procrastinators discount long-term costs relative to short-term benefits. Similarly, a hearing-impaired person might rate too low the cost of wearing a hearing aid *now* relative to the benefit of social interaction that would result *in the future* from learning to use it well. On this conception, *future discounting* pits long-term benefits (Freud’s [1922] Reality Principle) against immediate inclination (his Pleasure Principle), and gives the latter an advantage. The size of the bias, the “future discount rate,” as we might call it, differs from person to person.

Notice that the long-term detriments that arise from discounting presuppose that there are two things being evaluated—the temporally less distant (e.g., listening effort *now*)and the temporally more distant (social immersion in the long run)—and that they are oppositely evaluated. For instance, there is the temporally proximate behaviour of getting ready for bed. This is unpleasant and is rated as a small cost. There is the cost of getting ready for bed in ten minutes. That is presumably the same as doing it now, though by the future discount rate, it is estimated as a smaller cost. There is also the future consequence of being alert the next day, which is a benefit. Because of future discounting, this benefit can be rated small relative to the temporally more proximal bedtime routine. So the procrastinator repeatedly comes to the determination that going to bed ten minutes *from now* is the best thing to do.

It is rational and correct to discount the future. If it weren’t, I would never have a reason to take a small benefit (such as a short nap) now rather than later. But excessive discounting is problematic when it leads to squandered opportunities. My French is poor because I spent my time on worthless diversions instead of zealously attacking the exercises my teacher gave me. This is a bad outcome. Similarly, when people avoid the use of hearing aids, they have bad long-term outcomes for the sake of smaller short-term costs. Two questions arise. Why do they excessively discount future benefits? What is the best way to help them avoid the outcome?

### Motivational Harmony

There are fortunate individuals whose emotional make-up ensures that there is no conflict between proximal and distal temporal ratings. If I had *enjoyed* studying new languages, the immediate task of spending two hours on French would have been a benefit not a cost, *and* I would have got the long-term benefits. Since the short-term and long-term outcomes are both rated as benefits, the future discount rate would have been irrelevant. I would have plunged into my studies with no consideration of the future benefit. This is *motivational harmony*. The Furness example (the first positive outcome above) illustrates this. There is no offset, in such examples, between cost and benefit.

Aristotle argued that this kind of confluence of inclination and calculation was the foundation of true virtue—a virtuous person is, according to him, one who has learned to do by inclination what he knows to be beneficial going forward (*Nicomachean Ethics* II). In Aristotle’s account of virtue, the virtuously peaceable man does not control his anger because venting it would ultimately cause him grief. He has rather, by dint of the correct kind of upbringing and education, (a) learned that venting anger is bad, and (b) developed the inclination *not* to vent anger. Like the hypothetical me, who enjoyed learning languages and plunged spontaneously into French exercises, Aristotle’s virtuous man is not simply one who discounts the future less, though he might do this as well. He is rather one whose short-term inclinations are in line with long-term benefits.

It is instructive to apply Aristotle’s analysis to the difference between a fulfilled conversationalist who is hard of hearing such as Furness and a frustrated worker who is hard of hearing and is having trouble getting used to his hearing aid—let’s call the latter ‘William.’ Furness’s eagerness to use his ear trumpet was motivated by enjoyment, not calculation; using the ear trumpet was for him a benefit, not a cost, and he did not have to weigh it against future benefits. By contrast, William (a) finds the hearing aid aversive, *and* (b) sharply discounts the future benefits of using it. The theory of motivation focuses on (b): Why does William discount the future ultimately to his own detriment? Perhaps the question for hearing health care professionals should rather focus on (a): How can William’s aversive reaction be converted to the joyful positive approach of Furness?

*Aristotle’s* answer is: by repetition and habit-formation. Education, he says, brings it about that inclination follows the Freudian Reality Principle. According to Aristotle, a well-brought up person is one in whom, as Freud would say, the Pleasure Principle has been made to coincide with the Reality Principle. Aristotle’s idea of education is old-fashioned and limiting; it consists of explanation and repetition. A child is taught virtue by verbal instruction: social mores are explained as the enablers of social harmony, for example. But knowing that something is right is not sufficient for motivating us to do it. This is where repetition and habit-formation come in. When we are children, we must be taught to *act* virtuously by repetition. It is characteristic of humans that repetition changes their propensities, Aristotle says. “A stone cannot be habituated to move upwards, not even if we tried to train it by throwing it up ten thousand times” (*Nicomachean Ethics* II, 1). But children are not stones; their untutored propensities *can* be changed. There are things that they are initially loath to do, but which later become second nature.

In the remainder of this paper, I will examine one factor in a life like that of Furness—inclination, and its close cousin, *pleasure*. For him, listening effort is not a cost to be weighed against a future benefit. This can help explain why he is different from William, who is hard of hearing and faces emotional and social challenges. William is constantly obliged to expend costs for their future benefits. One way to ameliorate his situation is to help him be more like Furness. Help him find more pleasurable ways of doing things, so that there is an immediate as well as a future benefit to listening effort. Aristotelian repetition is, in some pursuits, the best way to achieve this—think of how one learns, and learns to enjoy, a motor skill like ballroom dancing by repeating routines and thus automatizing them. But there are many other ways known to personal coaches and health-care professionals.

### Emergent Pleasure

There are several kinds of pleasure, demarcated by the distinct role each plays in our motivational psychology. Plato gives the right account of one kind, while Aristotle gives the right account of another. The Platonic kind sheds no light on motivation. The Aristotelian kind has some explanatory utility in understanding the contrast, but it is even more revealing when placed in the context of a third kind of pleasure that I will discuss in section VI.

 *Platonic (or relief) pleasure.* For Plato, as for most contemporary behavioural scientists, pleasure is passive. In Plato’s model, certain states of the body are difficult to maintain (*Republic* IX). Hunger, thirst, pain, and prolonged wakefulness are examples. When these states come to an end—when we at long last eat, or drink, or are relieved from pain, or fall asleep—we experience the pleasure of relief. Relief pleasures are purely reactive. They are instructive—if a particular action, like eating cheese, led on an occasion to the pleasure of relieving hunger, we become more likely to repeat these actions when we are hungry again. But relief pleasure is not a motivating impetus—drives like hunger play that role. We eat because we are hungry; it is a strange individual who eats for the pleasure of relieving hunger.

Though modern conceptions of pleasure do not repeat Plato’s identification of bodily pleasure with relief, they nonetheless present pleasure as a passively arrived at consequence of some action or occurrence. When action A causes pleasure, we value A. However, this pleasure is subsequent to A and does not motivate it. We may do A for the pleasure that we anticipate that it will bring, but when that pleasure is occurring, it does not motivate specific action. For example, if you are very hungry and you eat, you get pleasure. But since you are now no longer hungry, this pleasure provides you with no motivation to do anything else. On the Platonic conception, then, pleasure is merely a passively felt evaluation of something that has already occurred and is now done with.

*Aristotelian (or execution) pleasure.* According to Aristotle, pleasure is the unimpeded performance of a natural life-function (*Nicomachean Ethics* X). Now, the notion of a life-function is a bit vague and contestable; Aristotle included intellectual activity under this category. We should pry the notion loose from this kind of metaphysics by defining *execution pleasure* as the successful performance *without wasted effort* of any activity valued either for itself of for its result.

The important point to note is that the last clause connects to the minimum cost stipulation of motivation theory as outlined in section III above. Reading a good book is pleasurable, but to the extent that it requires useless effort—say, because the light is bad, or because the book is stained and difficult to decipher—the pleasure is diminished. Walking is pleasant on a warm summer evening, but when you get overly tired and are dragging yourself home, it is not as good. In these cases, the effort one puts into overcoming extraneous obstacles is perceived as wasted. When effort is wasted then execution pleasure is absent, or in extreme cases, one feels displeasure.

Unlike Platonic relief pleasures, Aristotelian execution pleasures are motivators. If one is walking in a free and unimpeded way on a warm summer evening, the pleasure motivates one to continue. The pleasure is not an index simply of something that has occurred, has been welcomed, and is now over—it is rather the measure of the value of the continuing activity. There is a feedback loop from what you are doing, to pleasure, and back to the motivation of what you are doing. Speech communication is a complex example of execution pleasure. A person with good hearing is able, by dint of lifelong experience, to understand speech by listening. The pleasure of participating in pleasant conversation motivates one to continue. But as interfering factors accumulate—noise, hearing loss, unfamiliarity of language or accent, etc.—more and more cognitive resources are needed for effective listening (Rönnberg et. al. 2008, Rönnberg et. al. 2013). Moreover, there may be no established routine for deploying these resources. Much as the pleasure of walking diminishes when conditions become difficult, so also the pleasure of easy listening retreats when these interfering factors intervene.

Think back now to the difference between Furness and our fictional William. Furness gets pleasure and enjoyment from conversation; William, the frustrated worker, does not. William’s comprehension is highly impeded. The kind of pleasure that Furness feels is execution pleasure; it makes him want to continue. It is motivational, not merely retrospective. William, by contrast, experiences no execution pleasure; since his action feels impeded, he may even experience displeasure. He feels somewhat reluctant to continue. As time goes on, he develops a habit of avoiding such situations. This is the road to social isolation. Aristotelian repetition is working against him.

Now let’s look back on motivation theory. Rationally, William is motivated to expend the *least* amount of listening cost needed to achieve speech understanding, provided that he estimates that this cost is less than the benefit realized. At this point, one can ask: what does “least cost” mean? Does it mean (a) the least needed for William to achieve comprehension, or (b) the least needed relative to some objective measure, not measured by the cost that *he* needs to undertake, given his particular situation? Does (b) amount, for instance, to *the least cost that a person with acute hearing would have to* *expend?* From the point of view of rational motivation theory, (a) is the right way to understand least cost. For if *C* is the least cost one can expend in order to realize benefit *B*, where *B* > *C*, then one comes out ahead. Moreover, there is no way for one to come out any further ahead. The fact that *C* is a greater cost than one would have had to exert in a different situation, or more than somebody else would have to spend for the same result, is simply irrelevant.

Consider this, however. Aristotelian execution pleasure is an index of unimpeded activity. The *lack* of Aristotelian pleasure signals *wasted* effort—effort that is directed not to the smooth unimpeded execution of the task, but to surmounting extraneous obstacles. When William strains to understand speech, he is aware of doing all sorts of things to overcome obstacles to comprehension. He needs to overcome these obstacles in order to achieve comprehension, but the effort of doing so *seems to him* to be wasted inasmuch as it is directed to overcoming extraneous things. He is getting no benefit from these extraneous results, and hence he is willing to undertake no cost. In other words, he is unwilling to expend *costly* effort for no benefit. His method of calculating value is mistaken, but given that he thinks that he would be wasting effort, rational motivation theory predicts that he should be unwilling. This is why he withdraws. From the point of view of rational motivation theory, William’s reasoning is procedurally correct, but based on a misestimate of least cost. The theory of execution pleasure helps us understand the source of his error.

Here, then, is one account of the difference between Furness and William. Though Furness is using an unwieldy instrument, his large ear-trumpet, his engagement in conversation feels smooth and unimpeded, while William’s engagement feels effortful and fitful. It feels to William as if he is wasting effort, while Furness merely feels the joy of doing something he loves to do. The mark of Furness’s conversation is not that it is effortless; rather, it is that the effort feels as if it is smoothly directed to his goal, rather than to leaping over extraneous hurdles meaninglessly thrown into his path. It is effort without cost.

### Facilitating Pleasure

Platonic pleasure welcomes a certain state, but has no motivating effect in the present; Aristotelian pleasure motivates the continuation of an activity. A third kind of pleasure plays a much more active role: it coordinates and facilitates an activity. (I have discussed this kind of pleasure at greater length in Matthen forthcoming.) This, as I shall now try to show, is the kind of pleasure that is most relevant to understanding the difference between Furness’s joyful social participation and William’s withdrawal.

To set up the conceptual machinery, consider first an activity that I will call *thirsty drinking*. You have been working hard on a building project in the hot summer sun. You are thirsty and you go inside for some nice cool water. You gulp down a glass of the stuff with great enjoyment. Gulping water is a highly coordinated effort of head, lips, tongue, and gullet, not to mention lungs, hand, etc. Nevertheless, you execute it smoothly. Drinking the water gives you Aristotelian execution pleasure; after a while, it gives you Platonic relief pleasure. However—and this is the point that I want to draw attention to—it plays a role over and above those envisaged in these conceptions.

To appreciate the role of pleasure in this operation, consider how the enterprise might fall apart. First imagine that you have had enough water; your thirst is satisfied and your stomach is full. Suppose that for some reason, you are forced to continue to drink. (Often, you have to do this sort of thing: for an ultrasound exam, you are told you must drink a litre of water, though you are not thirsty.) When you drink beyond the imperative of thirst, pleasure reverses itself and turns into its reverse. As pleasure declines, the smooth coordination of the intake begins to fall apart. The swallowing becomes forced and ragged; in extremis, you might even gag. It is as if the conductor stops waving her baton and the orchestra loses all coordination. Alternatively, imagine that you begin to drink and you find that the glass contains a liquid that is unpleasant to drink—brackish water with dissolved vegetable matter, for example. Then too, the coordination required for smooth drinking is disrupted. You can force yourself to drink, but you will not be able to do it smoothly. In thirsty drinking, pleasure does more than motivate; it plays a role in the coordination and continuation of the complex activity. It plays a facilitating role.

This brings me to the crucial point. Thirsty drinking is an innately specified activity. It gives pleasure and it is facilitated by the pleasure it gives. Evolution did not, however, construct it for the sake of pleasure, but rather for the facilitation of drinking suitable liquids when thirsty. Certain other activities are created by pleasure for the sake of the pleasure they give. They give pleasure, and are assembled by learning from the pleasure they give. They are put together, as I shall say, by Learned Optimization for Pleasure (LOP).

As an example, consider drinking wine. A novice might start off drinking wine in the manner of thirsty drinking, above. The results are predictably disastrous. But over a period of time, by a combination of instruction, acculturation, and experimentation, she begins to understand how to maximize the pleasure of drinking wine. (Note the role of community and culture in this development.) There are many ways of drinking wine; some optimize the particular pleasure of tasting it. Since pleasure is a reward, the pleasure-optimizing ways of drinking wine are reinforced and habituated. The one-time novice thus develops a battery of cognitive attitudes, coordinated techniques, and routines that help her get the greatest reward from the activity. She knows that drinking it in this way will give her greater pleasure and so she is motivated to do it in this way. Wine tasting is a LOP routine. The pleasure that accompanies wine tasting is, moreover, a facilitating pleasure. The pleasure of taking a sip of wine activates the entire learned routine; the particular pleasure of exercising the nexus reinforces it.

It is instructive to note the parallel between Aristotelian virtue, as explained earlier, and LOP activities. Let’s say that there is a bad way of drinking wine and a LOP way. The bad way is the naïve way—gulp it down. This affords the individual some easy enjoyment. Perhaps it’s hard to get around this way of doing it. Then there is accomplished wine-tasting. It takes a long time to master; at first, it doesn’t come easily. By dint of constant instruction and self-discipline, it becomes an automated routine. In the experienced wine-drinker, learned inclination coincides with the right way of doing things. In Matthen (forthcoming) I emphasize the high cognitive content of some of these LOP routines.

The suggestion that emerges from this consideration of LOP routines is that since there is pleasure to be had from the effective use of listening strategies and/or hearing technologies, it should be possible to learn how to use them with and for pleasure. We are told that when Furness spotted the Folgers coming up the drive, he would uncase his trumpet. The suggestion is that he was eager for a particular form of conversation, and that he had learned to conduct it in ways that gave him pleasure. These ways of conducting the conversation would include ways of using the ear trumpet and using his own social skills to maximize his comprehension of the words that held his interest. The exercise of these skills would be effortful, but since they are designed to maximize his pleasure, they yield a reward. As well, since Furness has learned to exercise these skills in ways that smoothly and unobtrusively overcome extraneous obstacles, they reduce the cost of the effort.

### Conclusion: Furness and William

We started out by considering a sad fact—people who are hard of hearing are statistically more prone to various emotional and social disorders than those who can hear well. They also face greater demands on their cognitive processing resources to perform essential communication and social tasks that well-hearing folks carry out with much less cost. What is the connection between these facts? How does the greater cost contribute to the greater rate of withdrawal and social isolation?

We noted that cognitive load does not automatically translate into avoidance and frustration. Students spend years expending huge amounts of effort to master difficult material; they do not become depressed at a greater rate than others. (When they do, it is not usually attributed just to the difficulty of their curricula). And among those who are hard of hearing, there are those, like Furness, who joyfully resort to unwieldy devices so that they may participate in cognitively demanding intellectual interactions. What is the difference between a Furness and someone like our fictional William, who finds prosthetically aided conversation so aversive that he withdraws from society? Evidently, listening effort is not the whole of the story, because Furness is under at least as much cognitive load as William. The difference is that Furness *enjoys* the cognitive load that he undertakes, while William finds it daunting. For William, it is a cost that he must pay to get a steeply discounted future benefit. For Furness, the cognitively loaded activity of listening and participating is not a cost at all. Why the difference?

The theory of rational motivation is helpful here, but it cannot provide the whole answer. According to this theory, individuals are motivated to invest the least cost necessary to achieve a benefit, provided that the resulting benefit is greater. We can conclude that William is *not* motivated to undertake social interaction because either he thinks that it is less beneficial than the listening cost or he thinks that it is impossible to achieve. The problem is that we can’t on this account explain why he should entertain either of these beliefs. Both seem to go against the obvious facts of the matter.

William’s reluctance seems therefore to fall into the territory that philosophers have sometimes labelled “future discounting,” where (according to the best recent treatments, such as Ainslie 2001) excessive discounting prevails, and the magnitude of benefits and harms closer in time are exaggerated relative to those that are more distant in the future. I suggested that the source of this illusion might be a lack of Aristotelian execution pleasure, suggesting that some of the effort of conversation is wasted for some individuals who are hard of hearing. For Furness, listening through a ear trumpet is difficult, but worth the cost; for William, listening with a hearing aid is unnecessarily aversive because it seems to be directed to overcoming extraneous obstacles. (It is also worth noting that in Furness’s case, the intellectual pleasure that he derives from conversation is temporally proximal—he is not listening merely for future benefits.)

Fortunately, it seems that the facility that Furness shows is learned. The crucial point, though, is that for him listening through an ear trumpet is Learned Optimization for Pleasure. LOP activities result in pleasure and are reinforced by this pleasure. The testable consequence of this speculation is the following. It is not sufficient to teach William how to understand speech with a hearing aid. For this might still leave him disliking the activity. What we have to teach him is how to listen in such a way as to optimize pleasure. As an illustration of methods that might help, consider “temporal fitting,” where hearing aids are programmed to increase amplification over a period of time. Users find the sudden introduction of unaccustomed levels of amplification “harsh, shrill, and unpleasant” (as Thomas Lunner put it in personal communication), and temporal fitting ensures that the learning process is much less unpleasant. On the other side of coin, we should treat immersive practices in hearing aid fitting with a degree of caution. More is not unqualifiedly better in the early stages of hearing aid use.

To end, I will sound two cautionary notes. The first is that we should acknowledge that in Furness’s case, just as much as in William’s, there are two distinct activities—the act of wielding the ear trumpet for acoustic amplification, and the cognitive act of conversing. The latter is richly rewarding and Furness has learned to associate its pleasure with the activity of using the ear trumpet. Nevertheless, using the ear trumpet is difficult and tiring. It is constantly threatening Aristotelian displeasure because it demands the cooperation of whomever he is talking with. When this cooperation flags, he has to request it afresh—he has to ask his forgetful interlocutor to speak into the trumpet, and this becomes tiring for both. In this and every other LOP routine, the pleasure attaches primarily to the result, not the activity itself, and thus the two can become dissociated. When this happens, the future discounting problem arises again. The proximal unpleasantness of listening through a device can discourage the activity despite the distal reward to be gained. It is extremely important, therefore, to minimize the proximal discomfort.

My second cautionary note concerns the role of others. Furness enjoyed the company of the Folgers (and of his grandson) because they were eager co-participants. Conversation demands something of these others, and they too could withdraw, thereby isolating Furness. This illustrates an important point that I have had no space to address. Listening, conversation, and speech-aided collaboration are social activities. Without the cooperation of all, the person who is hard of hearing cannot enjoy her position.

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1. The photograph and the biographical minute are available at <http://www.stephenhgrant.com/tencameos.html> (accessed August 5th, 2015). See cameo 8. [↑](#footnote-ref-1)