

First-Person Perspectives in the Human Sciences  
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**Participation in and Discussion of Descriptive Experience Sampling**

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Rather than present a paper at this workshop, I will oversee a Descriptive Experience Sampling interview where the participant will be Agnes Bolinska and the interviewers will be all the workshop attendees. Here's how it will work:

In the weeks prior to the workshop, Agnes will wear the DES beeper for one or two sampling days. Russ will conduct (by Zoom) DES interviews with Agnes about those samples. Those who will attend the workshop will be invited by email to observe/participate in those interviews. These interviews will be considered the confidential property of the workshop.

We will videotape those interviews and make them available to workshop participants in the weeks prior to the workshop. These videos will be considered the confidential property of the workshop.

Agnes will again wear the beeper (her third sampling day) on the Friday of the workshop (April 17) and collect a half-dozen experience samples. Then on Saturday, the assembled workshop members, with Russ's guidance and participation, will jointly conduct the (third) DES interview of Agnes.

This interview will be partly a discussion of Agnes's experiences and partly a discussion of DES—whether/to what extent science should credit or discount Agnes's descriptions—kept concrete because it will be tied to particular samples of Agnes's experience. We will videotape this event (making arrangements so that anyone who does not wish to be videotaped can still fully participate).

I hope to keep this discussion both light-hearted and serious, hoping to facilitate serious and open discussions of important issues in experiential science.

As DES background reading, I attach the penultimate draft of "100 things to know about pristine inner experience," my chapter in the forthcoming *Routledge Handbook of Introspection* (2026), Anna Giustina, Editor.

Penultimate Draft

Please do not quote—quote from the chapter forthcoming in

*Routledge Handbook of Introspection* (2026)

Anna Giustina, Editor

Chapter 19

**100 things to know about pristine inner experience**

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**Abstract**

The chapter's author invented the random beeper and was the first to perform experience-sampling studies. He describes how that led to an interest in pristine inner experience (directly apprehended naturally occurring phenomena undisturbed by the intention to observe) and to descriptive experience sampling (the method created to explore pristine inner experience). He highlights some important characteristics and findings of research into pristine inner experience: that most people, most of the time, in their everyday environments, have some sort of directly apprehended pristine inner experience ongoing at any particular moment; that most people are ignorant about important characteristics of their own pristine inner experience (despite being constantly immersed in it); that it is possible to explore pristine inner experience if an adequate method is used; that an adequate method must bracket presuppositions and be iterative. The chapter highlights a few robust findings about pristine inner experience.

**Keywords:** pristine inner experience, introspection, consciousness, descriptive experience sampling, experience sampling, beeper, mentalism

## 100 things to know about pristine inner experience

### Historical background

#### *William James.*

William James famously used this sketch (Figure 1) to illustrate “that it makes little or no difference in what sort of mind-stuff, in what quality of imagery, our thinking goes on. The only images *intrinsically* important are the halting-places, the substantive conclusions, provisional or final, of the thought” (James 1890/1950, 269). The *substantive* portions are the *A* and *Z* in James’s sketch; the *transitive* portions are the several connecting curves. One thinker can get from substantive experience *A* to substantive experience *Z* by the slightly curved transitive path; another thinker can get from *A* to *Z* by a curly transitive path, and so on. The transitive paths don’t matter, according to James: about all those thinkers “we say, and rightly say, that all the thinkers have had substantially the same thought” (James 1890/1950, 269) regardless of which transitive path they had taken.

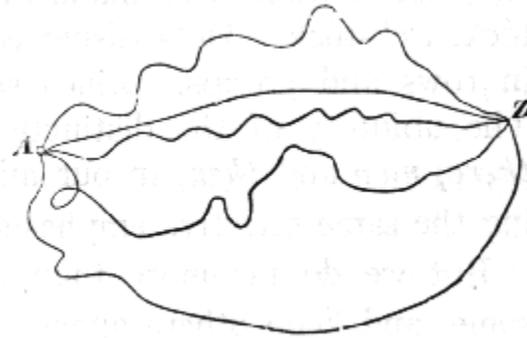


Figure 1: James's sketch of the stream of consciousness

When I read James (in about 1970, 80 years after it was written) it was James’s next sentence that caught my attention: “It would probably astound each of them beyond measure to be let into his neighbor's mind and to find how different the scenery there was from that in his own” (James 1890/1950, 269). It seemed to me that psychology and consciousness science should know something about such “probably astounding” phenomena, even if they were transitive.

James’s analytical method presumed that these astoundingly different sceneries could not be grasped:

The attempt at introspective analysis in these cases is in fact like seizing a spinning top to catch its motion, or trying to turn up the gas quickly enough to see how the darkness looks. (James 1892/1984, 147)

In 1970ish, I optimistically thought that technology had advanced in a way that had not been available to James. It seemed that it should be possible to create random beeps that could be inserted into James's transitive regions (see Figure 2), and that those beeps could trigger an inspection of even transitive phenomena. Of course, that wouldn't allow turning up the gas quickly enough to see the darkness, but such a technology *would* (perhaps) allow us to turn on a light quickly enough to see the nocturnal creatures before they could scurry away. See the darkness, no; see what lives in the darkness, yes.

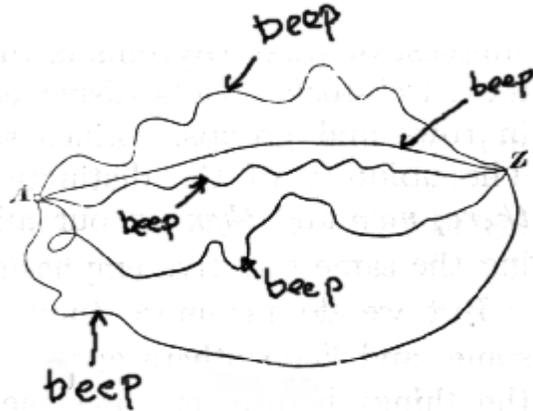


Figure 2: James's sketch with beeps inserted into the transitive areas

The required beepers did not exist in 1970, but in 1973 I invented one (patent: Hurlburt, 1976), and became (in 1973) the first to use beepers in psychological research. In my early (1970s) research (which I then called “thought sampling”), participants filled out questionnaires (basically a collection of Likert-type scales) when prompted in their natural environments by random beeps; I then subjected that questionnaire data to a variety of sophisticated analyses. Those studies were very similar to what is now called the Experience Sampling Method (ESM; Csikszentmihalyi and Larson 1987) or Ecological Momentary Assessment (EMA; Stone and Shiffman 1994).

### ***B. F. Skinner***

The psychology of the early 1970s was largely behavioristic, dominated by B. F. Skinner's radical behaviorism. Skinner believed that inner experience should be excluded from science because its exploration would be difficult or impossible, for two reasons: (a) because language about inner experience is impoverished; and (b) because laypeople and cognitive scientists are prone to giving mentalistic explanations. But a (behavioristic) psychological science that excluded experiences such as thinking and feeling was increasingly seen as too sterile, and across the 1970s, behaviorism was being replaced by a cognitive psychology that felt liberated from the Skinnerian restrictions. My original thought-sampling studies were at the leading edge of that movement.

However, while I accepted that Skinner's radical behaviorism was too sterile in its deliverances, and while I believed it was desirable to explore James's astounding scenery, I found that I could not (or should not) simply ignore Skinner's (a) impoverishment and (b) mentalism logic. Here's the (a) impoverishment issue, as I described it later:

If a community wishes to develop a differentiated usage of the talk “I see red,” it can give a series of trials in which it presents external objects that are variously rose, auburn, russet, rusty, carnation, strawberry, cerise, and carmine, appropriately reinforcing or

punishing talk about each specific variation of red. Thus the community can shape “I see red” with great precision and thus can reliably differentiate such statements as “I see auburn” from “I see cerise.” However, if the community wishes to develop a differentiated usage of the talk “I am depressed,” it cannot present a series of internal states that are variously melancholic, downcast, downhearted, droopy, low, blue, bummed out, and down. It therefore cannot directly reinforce or punish talk about such states. It is forced to rely on public accompaniments of private events, such as withdrawal, failure to eat, or crying, to shape statements about the private events themselves. Even though such public accompaniments may in fact be correlated with depression, those correlations are far from perfect. Therefore talk about the experience of depression receives only impoverished differential reinforcement and is not likely to have the same precision as talk about external events. (Hurlburt 2011, 197)

A (b) mentalism is an assumed-to-exist inner event that is itself not directly observed but is said to explain behavior. Consider “John eats because he is hungry”; hunger is a mentalism because it is a presumed state that is credited with causing eating behavior. Here is my summary of Skinner’s two main objections to science’s crediting mentalisms:

First, hunger is not a directly observable or measurable state. Many scientists have tried, not very successfully, to measure hunger: in rats, for example, scientists have measured how long the rat has been food deprived; measured what percentage the rat is of his free-feeding weight; measured how much electrical shock the rat will endure to engage in feeding; measured how much a rat’s food can be laced with quinine before the rat declines to eat; and so on. It turns out that those measurements of hunger don’t correlate very highly, leading Skinner to conclude that hunger as a unitary construct probably doesn’t exist, and I agree.

Second, according to Skinner, allowing science to posit the existence of mentalisms such as hunger discourages scientists from searching for really existing, really important causes or features of behavior (Hurlburt 2011, 196)

In short, in Skinner’s own words, “we must remember that mentalistic explanations explain nothing” (Skinner 1974, 224).

Those were serious considerations, so by the middle of the 1970s I began examining my own thought-sampling studies. My thought-sampling questionnaires asked participants to rate their at-the-moment-of-the-beep thought on Likert scales such as “self-critical,” “about the future,” “pleasant,” and “sexual.” Carefully considered, did requiring such ratings assume that there was a thought which could be rated on those characteristics? And if so, was that assumed thought a mentalism, as Skinner would say? So I began to debrief my participants, asking them what they intended, for example, when they rated a particular thought a 5 on “self-critical” or a 2 on “pleasant.” The more careful I was in those debriefing interviews, the more obvious it became that my participants didn’t really know what they were rating and didn’t have a shared understanding of “self-critical,” “about the future,” “pleasant,” and “sexual.” That is, I came (in the mid-1970s) to accept that Skinner was right: my participants’ inner-experience language was impoverished and they had no access to the mentalisms I was asking them to rate. I came to accept that no increase in sample size, no increase in analytical sophistication could overcome those objections (garbage in, garbage out), and by the end of the 1970s I had abandoned my questionnaire-based beeper studies.

### Pristine inner experience

The good news that began to emerge from my debrief interviews was that in my efforts to understand what my participants were actually doing, I started to have debrief interviews not just at the end of participation but after each sampling day. So if a participant was in a thought-sampling study where she was to wear the beeper on eight sampling days, I found myself having eight debrief interviews with her, and across those interviews, she and I were gradually developing a shared understanding of (for example) “self-critical,” and whether that concept was relevant for her. From a validity standpoint, that was terrible—we were altering how she rated my Likert-scale “self-critical” item—so that her ratings could no longer be taken as comparable to those of other participants. But from a fidelity standpoint, that was great—by coming back again and again to the self-critical topic, each time from a fresh standpoint (because the beep had occurred in a different situation on each occasion), we seemed to be overcoming in an important way (if not completely) Skinner’s worry about impoverished language.

At the same time, those interviews reinforced my belief that Skinner was unalterably right about his concern about mentalisms. I couldn’t see (and still can’t see) any way that introspection can get past that objection.

To make a long (mid-1970s to early 1980s) story short, I continued to think that the beeper could provide some insight into James’s “probably astounding” phenomena if the beeper could be used in a way that honored Skinner’s critiques. But how, if not by administering beeper-driven questionnaires? I read the phenomenologists (Merleau-Ponty, Heidegger, Sartre, Kierkegaard, the Duquesne school, etc.), the introspectionists (Wundt, Titchener, Külpe, etc.), the meditators (Buddhism, Zen, Jainism, the Christian mystics, etc.), the self-report critics (Nisbett and Wilson on false attributions, Loftus on false memory, Münsterberg on eyewitness testimony, Simon, Tversky, and Kahneman on heuristics and bias, etc.). Mix all that <footnote 1> together with what I knew about beepers and the results of my own debrief-interviews; the result (1980ish) was to focus my interest on what I came to call *pristine inner experience*.

By *inner experience* I mean phenomena that are directly apprehended, “before the footlights of consciousness” as James would say. Directly apprehended inner experience includes phenomena such as inner speaking (a.k.a. inner speech, inner dialog, inner monologue), inner seeing (a.k.a. seeing an image), sensation (itch, tickle, pain), feeling (the experience of emotion), and so on. Directly apprehended inner experience *excludes* speculations about causation of inner experience (e.g., “I was picturing her *because* she hurt my feelings”), theories about inner experience (e.g., inner speech *has the same* characteristics as external speech), generalizations about inner experience (e.g., “When I read, I *always* silently speak the words I’m reading”), and so on. By *pristine* inner experience, I mean naturally occurring in everyday environments: inner experiences while grocery shopping, paying the bills, writing an academic paper, walking on the treadmill, and so on. By *pristine* I mean to *exclude* manipulations as are often found in psychological experiments, explicit attempts at introspection, and so on. That is, I use *pristine* in the same sense as one describes a forest as *pristine* if it does not have asphalt walkways and plastic bottles. *Pristine* does *not* mean clean: a *pristine* forest is in parts bloody, mucky, and so on (Hurlburt 2011; Hurlburt and Akhter 2006).

Pristine inner experiences are therefore the kinds of phenomena that James might think of as “astoundingly different.”

Pristine inner experiences are *not* mentalisms. One does not “posit the existence” of inner experiences—inner experiences directly present themselves, are directly apprehended phenomena. Inner experiences are *not* presumed to have causative significance—maybe they do, maybe they don’t.

### **Descriptive experience sampling (DES)**

Descriptive experience sampling (DES) is a way (and the best way that I have evolved over half a century of trying) of using a beeper to take James, Skinner, the phenomenologists, the meditators, and the self-report critics seriously. That is, DES is the performance aspect of an interest in pristine inner experience. Stated simply, DES is neither more nor less than doing what it takes, as best we see how it can be taken, to describe pristine inner experience. DES has evolved somewhat since 1980, but its main features have remained throughout. If the reader can suggest a principled way of improving the DES-way of apprehending pristine inner experience, then DES will morph itself into including that way.

DES takes James seriously because pristine inner experiences are the “probably astounding” phenomena that occur en route from Figure 1’s *A* to *Z*.

DES uses a beeper because that’s the best way that I have found to distinguish the particular pristine inner experience to be considered. Pristine inner experience fluctuates dramatically across time, and if I and a participant are ever to have a chance at understanding each other, we have to try to be aimed at the same experience. The beep says, in effect, let’s talk about *that* experience, the experience “caught in flight” at the moment of beep onset, and no other experience.

DES takes Skinner seriously in two ways: first, it accepts that people’s language about inner experience is naturally impoverished and incorporates a principled method to ameliorate that impoverishment, a method that DES calls “iterative” (Hurlburt 2009, 2011). The iterative procedure (an elaboration of my original debrief interviews) starts with acceptance of impoverishment of language and ignorance about phenomena, and does the best it can (which is to say, badly) to help the participant try to describe to the investigator the experience caught in flight by the first beep. Over the course of that first interview, the participant and the investigator may profit from that attempt to describe, learn a little bit (but not much) about how to communicate unambiguously about inner experience. That profit may allow the participant on the second sampling day to apprehend her experience with somewhat more skill, and thence to describe that experience with somewhat more precision. That second interview may lead to an increase in apprehensional and descriptive skill in the third interview, and so on. That is, the participant and interviewer, by focusing on a series of at-the-moment-of-the-beep experiences, each with an interview following it, may gradually ameliorate the original impoverishment of language.

The second way that DES takes Skinner seriously is to accept Skinner’s critique of mentalisms as being correct and insurmountable by any introspective effort. DES implements that acceptance by limiting itself to describing phenomena that directly present themselves before the footlights of consciousness. DES does *not* speculate about theory, causation, mental structures, universalities, explanations, and so on. That is, DES radically avoids mentalisms, just as radically as does Skinner’s radical behaviorism. Inner experiences are private, to be sure, and that privacy presents methodological difficulties, but those difficulties do *not* arise from their being mentalistic.

DES takes the phenomenologists seriously by accepting that people have presuppositions that interfere with their ability to describe experiences—when asked about their experience, most people most of the time engage in talk that reflects their presuppositions (about causality, about self-theory, about generalizations) rather than simply describing their experiences. DES seeks to “bracket” those presuppositions (set them aside, put them out of play for the time being) in a variety of ways—as part of the iterative procedure, by using multiple interviewers, each with their own but hopefully not-entirely-overlapping presuppositions.

DES takes the self-report critics seriously by simplifying the encoding task (to describing only the experience that was ongoing at the moment of the beep), by simplifying the memory task (by conducting the interviews within 24 hours of the sampled experience, or sooner if required), by (iteratively) easing the eyewitness task (by preparing the participant to be skilled and prepared to apprehend), and so on (Hurlburt and Heavey 2001).

Hurlburt (2011) and Hurlburt and Heavey (2006) discuss these principles in substantial detail.

After 50 years of DES investigations, I remain optimistic about the possibility of obtaining high-fidelity apprehensions of inner experience if (and perhaps only if) one limits introspection (as does DES) to attempts at describing pristine inner experience in high fidelity. However, I am somewhat pessimistic about the likelihood that science will organize itself to make high-fidelity apprehensions an important part of the scientific process—fidelity may be too time intensive and skill dependent to be widely acceptable. I aim here to summarize a bit of what we’ve found in the last 50 years on the possibility that it may tip the scales in the direction of optimism.

## **What we’ve found**

### ***In general.***

If you give people adequately designed beepers, and conduct adequate interviews about their experiences that were ongoing at those beeps, you will find:

1. Something generally occurs before the footlights of consciousness. Most people, most of the time, in their everyday environments, have some sort of directly apprehended inner experience ongoing at any particular moment.
2. However, some people at some beeps have little or no (Hurlburt and Schwitzgebel 2011) directly apprehended experience (Hurlburt 2024).
3. “Directly apprehended inner experience” turns out, after some practice, to be a relatively unambiguous concept for most people. That is, most people can learn to discriminate between the directly apprehended and the causative, theoretical, or general.
4. There is no good label for “directly apprehended inner experience”; often for convenience I call it “inner experience.” When I refer to inner experience, I intend to be understood as referring to directly apprehended, before-the-footlights-of-consciousness phenomena.
5. Apprehending and describing pristine experience is an aspiration, not a reality. Any attempt to apprehend or to describe destroys the pristine-ness of the experience. The question is not *whether* a description departs from experience, but *by how much*. I think it is possible to explore inner experience with substantial fidelity. A naturalist

- can parachute into a pristine forest and learn quite a lot about what was there, even though her parachute-arrival will indeed cause some animals to leave before she can catalog their existence.
6. There is indeed substantial (“probably astounding”) variability in pristine inner experience between people.
  7. Pristine inner experience fluctuates quickly, on the order of fractions of seconds. Think of what happens in your inner experience in the last second of a basketball game where your team is behind by a point and your star player launches a half-court shot: dejection, suspense, elation all successively occur within a second.
  8. Pristine inner experience is evanescent—it is forgotten quickly like a dream on waking.
  9. Most people are ignorant about important characteristics of their own pristine inner experience, despite their being immersed in it throughout their waking days.
  10. Unless they have been adequately trained, most people, when asked about their inner experience, report presuppositions (theories, generalizations, etc.) about their experience rather than describe their actually ongoing pristine experiences.
  11. Any method that seeks to describe pristine inner experience has to contend with those four issues: fluctuation, evanescence, ignorance, and presuppositions.
  12. Descriptive experience sampling (DES) is the method I have proposed to contend with those four issues.
  13. The aim of DES is to provide high fidelity idiographic descriptions of an individual’s pristine inner experience.
  14. “Idiographic,” according to DES and Webster, means “relating to or dealing with something concrete, individual, or unique” (Merriam-Webster n.d., idiographic).
  15. A DES idiographic description aims to describe a particular, unique individual’s (say, Kerry’s) experience with fidelity, regardless of whether Kerry’s experience is common (similar to many other individuals), uncommon (similar to a few individuals), or unique to Kerry.
  - 15a. If, for example, Kerry’s inner experience involves inner seeing (a.k.a. seeing images), an idiographic description of Kerry would say that she experienced inner seeing (as do many other individuals). But if her inner seeings contained unusual details—was black and white, for example—then the idiographic description would mention that. That is, *idiographic* means faithful to the individual, *not necessarily* uncommon.
  16. “High fidelity” according to Webster means “the reproduction of an effect (such as sound or an image) that is very faithful to the original” (Merriam-Webster n.d., high fidelity). “High fidelity” according to DES means the description of a pristine inner experience that is very faithful to the original.
  17. Establishing fidelity is difficult, but high fidelity can be an aspiration. <footnote 2>
  18. Because inner experience is private, the current state of the art requires that individuals describe their inner experience.
  19. The closest we can get to establishing the fidelity of a participant’s description is to (a) set up a situation where the participant seems to be motivated to provide a faithful description; (b) provide her with the skills of a principled method that aims at faithful description; and (c) eliminate everything that is not possibly part of a description. There are no guarantees that what remains is of high fidelity—the participant may be

a foreign agent motivated to deceive. But across many people, it is reasonable to suppose that fidelity can rise to the surface.

***DES method in general.***

20. DES is a fundamentally simple method: deliver an adequate beep and then cleave to the moment of the beep and cleave to pristine inner experience. By “cleave” I mean (with Webster) “to adhere firmly and closely or loyally and unwaveringly” (Merriam-Webster n.d., cleave).
21. By “the moment of the beep” I mean “the moment one microsecond before the beep sounds,” or “the moment of beep onset,” or “the last undisturbed moment before the beep,” or “the moment caught in flight by the beep.” Those locutions are all synonymous, aspirational, and metaphorical; I do *not* mean an actual microsecond (sometimes I call it a millisecond); I do *not* mean actually undisturbed; I do *not* mean actually caught in flight. I *do* find that those locutions are adequately descriptive with a little practice. I do *not* mean *in response to* the beep; I do not mean *occurring while the beep is sounding*; I do *not* mean *a minute before* the beep.
22. Instead of cleaving to the moment of the beep, people at the outset usually describe things that were long ago, or after the beep, or in response to the beep, or which occur in general, rather than what was actually ongoing at the moment of beep onset.
23. With some iterative practice, most participants can learn to cleave to the moment of the beep.
24. But DES is difficult because most people do not naturally cleave either to the moment or to experience.
25. Instead of cleaving to pristine inner experience, people at the outset usually describe causation, generalization, or some other presupposition rather than inner experience that was directly apprehended at the particular moment.
26. With some iterative practice, most participants can learn to cleave to directly apprehended experience.
27. The method requires an adequate alerting signal that conveys *pay attention to your ongoing inner experience now*, or *freeze your ongoing inner experience now*, or *capture...now*, or *apprehend...now*. Those locutions are all synonymous, aspirational, and metaphorical. I find that those locutions are adequately descriptive with a little practice.
28. An adequate alerting signal must have a fast rise time, that is, must have a sudden onset. Because of the rapid fluctuation and evanescence of inner experience, if the signal ramps up gradually, the act of recognizing *that's the signal, yep, that's the signal* destroys the ongoing inner experience. That is why, for example, a vibration is not adequate or a smart-phone alert is not adequate.
29. An adequate alerting signal must be unambiguous, that is, it must convey *pay attention to your ongoing inner experience now* (in any of its synonymous versions) and nothing else. For example, your phone ring is *not* an adequate signal because it also means *answer the phone*. By the time you have determined that you are not to answer your phone but are to attend to your ongoing inner experience, that inner experience has vanished.

30. I have tried a variety of signaling devices: beeps, vibrations, flashing lights, and so on. A 700 Hz beep is the best I have come up with.
31. To review (see #13): DES aims to apprehend pristine inner experience that was ongoing at the moment of the beep.
32. *Ongoing at the moment of the beep* does not imply that an experience is short or brief or momentary. DES does not investigate *momentary* experiences—it investigates *ongoing-at-the-moment* experiences. Some *ongoing-at-the-moment* pristine inner experiences are short, whereas some are long. For example, most inner seeings (a.k.a. images) are (in a clock sense) short (but do *not* include any directly-apprehended experience of the shortness of that duration). However, some inner seeings last for hours (e.g., those of “Fran” in Hurlburt 1993 chapter 14); an aspect of such experiences is that the person usually *does* have (and DES describes) a direct apprehension of the long duration of the image. DES has no preference regarding fleeting vs. long-term experiences as long as the experience was ongoing at the moment of the beep.
33. (see also #9) Most people are ignorant about important characteristics of their own pristine inner experience, despite their being immersed in it throughout their waking days. There are presumably lots of reasons for this ignorance, not least of which is that typically the characteristics of inner experience are not the focus of interest at any moment. For example, when you are solving an algebra problem, your interest is in the problem, not in the characteristics of your experience while solving.
34. The DES procedure overview is: **Interview 0** (describe the procedure); **sampling day 1** (wear the beeper and jot down notes about six samples); **expositional interview 1** (within 24 hours, discuss each of the six samples; this discussion is at least in part iteratively aimed at skill building); **contemporaneous descriptions 1** (within 24 hours, write tentative descriptions and memorialize disagreements and discussions); ... **sampling day *i***; **expositional interview *i***; **description *i***; ...; ... **sampling day *n***; **expositional interview *n***; **description *n***; ...; **idiographic sample review** (all investigators revisit and discuss all obtained samples; drafts of idiographic descriptions are produced); **refinement of phenomena and rectification process** (all descriptive characterizations are brought back to all the samples individually); **idiographic description of the participant’s phenomena**.
35. In a typical DES investigation, the total number of sampling days *n* is somewhere between 4 and 12 (with exceptions on both ends).

***Presuppositions.***

36. Most people have strong presuppositions about the characteristics of their inner experience. For example, many people think that they talk to themselves in their inner voice all the time. Those presuppositions are occasionally true, but more often false.
37. Ignorance is easy to alleviate: simply encounter the new facts.
38. Presuppositions are difficult to alleviate. Presuppositions are delusions—willful distortions that actively work against the encountering of new facts.
39. Ignorance : presupposition :: vacuum : hyperbaric pressure.

40. Presuppositions are accepted as being fundamentally true—as being true prior to any need for explanation.
41. You can alleviate ignorance by yourself—you can, for example, read about a new topic.
42. You *cannot* (or at least probably cannot) alleviate presuppositions by yourself—any new topic will be distorted by your presupposition.
43. Presuppositions are worthy adversaries—they will fight to the death.
44. Any competent therapist will tell you that there is nothing to be gained by trying to talk someone out of a delusion. That applies to a presupposition, which is a kind of delusion.
45. So you need help in abrading away your presuppositions, but it is not helpful merely to have your presuppositions pointed out to you.
46. Presuppositions are general ways of understanding; they *cannot* be affected by presenting alternative general ways of understanding. That is, presuppositions *cannot* be refuted.
47. Person *A* *can* help person *B* abrade away presuppositions by helping *B* encounter specific experiential/actual bits as they are. The hard part for person *A* is to resist the temptation to interpret a specific bit as either being consonant with or antagonistic to a presupposition—that judgment has to be made by *B*. Imposing *A*'s own interpretation is a temptation that is irresistible for most people, which makes those people incapable of helping anyone (including themselves) overcome (abrade away) a presupposition. (See #49.)
48. There is no reason to believe that people with higher intellectual power have fewer presuppositions. The smarter you are, the more capabilities you can marshal to defend your own presuppositions.
49. The only antidote for presuppositions that I know of is the genuine acceptance of ignorance. The DES procedure for (among other things) overcoming the impoverishment of language is the iterative process. Because presuppositions are delusions, the investigation of pristine inner experience is probably necessarily a first-person-*plural* process, requiring the participant and an investigator who is skilled at sniffing out presuppositions and helping in their bracketing, and who is coming from a perspective with different presuppositions from the participant.
50. Said another way, because presuppositions are delusions, solo introspection is hugely difficult, close to impossible for most people including (and perhaps especially) those with a philosophical bent.
51. Because presuppositions are delusions, interviewers should be expected to have (probably large) blind spots, exaggerations, overlookings, and so on. DES therefore typically uses two or more (joint) interviewers, each with their own presuppositions. Hopefully, those presuppositions will not align.
52. Because presuppositions are delusions, it is desirable to develop a culture where disagreement among the joint interviewers is valued and encouraged.

*Iterative process.*

53. The iterative process starts with the assumption of ignorance: when a participant describes her inner experience, we assume that we probably don't know (and that she probably doesn't know) what she's talking about.

54. The iterative process accepts ambiguity and seeks clarification by whatever means is appropriate. Sometimes that is a clarification of word usage. Sometimes that is a clarification of conceptualization. Sometimes that is a clarification of emphasis. In all cases the intention is to reduce Skinner's impoverishment of language.
55. The iterative object of the  $i^{\text{th}}$  expositional interview (see #34) is gradually to improve the apprehension-of-phenomena skills: clarify the moment, clarify the experience, and discriminate phenomena so that the apprehensions on sampling day  $i + 1$  can be of higher fidelity than the apprehensions on day  $i$ . The iterative object is also gradually to improve description skills: disambiguate and discriminate language about phenomena so that descriptions in expositional interview  $i + 1$  can be of higher fidelity than descriptions in interview  $i$ .
56. The iterative process works only going forward, not backward. That is, whatever clarification of ambiguities that takes place in *interview  $i$*  cannot be assumed to reduce any ambiguities from *sampling day  $i$* . Sampling day  $i$  is water over the dam; samples from that day were collected with whatever level of unclarity / ambiguity that existed at the beginning or expositional interview  $i$ . Discussion of the day  $i$  samples can improve apprehensional skills for day  $i + 1$ , but it is "too late" to apply those skills to the samples of day  $i$ .
57. The level of ambiguity generally decreases across sampling, and therefore the level of fidelity generally increases across sampling. Samples collected after many days of sampling / expositional interviewing are generally of higher fidelity than samples collected on the first few days of sampling.
58. The iterative process is *not* mere repetition. The iterative process requires that the expositional interview's clarification efforts take place *between* sampling days  $i$  and  $i + 1$ .
59. The iterative process is the primary DES vehicle for abrading away presuppositions. To the extent that the participant and the interviewer genuinely seek to apprehend and describe the participant's at-the-moment-of-the-beep experience, and work with diligence to remove ambiguities of apprehension and description, to that extent presuppositions may abrade away. Most people, in some general sense, want to reduce their presuppositions, but they usually do not do so because the delusional aspect makes a person's own actual presuppositions seem like unalterable facts proudly to be maintained, not presuppositions to be reduced. The DES iterative process accepts that and so does *not* attempt to identify and attack presuppositions explicitly. Instead, the DES participant tries to describe (to a skilled interviewer whose own presuppositions do not align with those of the participant) a bit of directly apprehended experience with fidelity. If any interference with that fidelity attempt becomes evident, the attempt to improve the fidelity may expose and abrade away (in both the investigator and the participant) interfering presuppositions, in much the same way as rocks in a tumbler polish each other's surfaces without having to analyze the nature of the impurities. (See #45.)
60. The iterative process *cannot* be replaced by some sort of abstract or *a priori* training. (This is a corollary of #45 and #46.)
61. No amount of pretraining is efficacious in DES. At the outset, I tell participants what to do, but it doesn't really matter what I say. Pretraining is merely the first step in the iterative process: we accept that the participant doesn't understand what I say.

62. Standardization of pretraining (for example, presenting instructions by video) is detrimental to DES because (in the medium-is-the-message vein) standardization implies that there is one best way to proceed and that the details that are standardly described are important. For example, a standard instruction would tell all participants the same things about inner speaking. But many participants do not experience inner speaking at all, and those instructions might suggest to participants that they *should* describe inner speaking.
63. The iterative process provides, for example, training in discriminating aspects of inner speaking when a participant's sample suggests that discriminations in the area of inner speaking might be necessary. But it does not train the discrimination of inner-speaking for those participants who do not engage in inner-speaking-like phenomena.
64. The iterative process requires a skilled interviewer. Every step of the process requires helping the participant to discover that her descriptions are not (or at least have not yet been) good enough. That kind of interaction requires simultaneous personal confrontation and substantial support.
65. Because presuppositions are delusions, even though, like DES, the Experience Sampling Method (ESM) and Ecological Momentary Assessment (EMA) use beepers in natural environments and multiple sampling days, ESM and EMA do not apply any principled procedure (such as iterative training between days) for reducing presuppositions (Heavey and Hurlburt 2008). Therefore ESM and EMA are better thought of as repeatedly investigating presuppositions about experience than investigating experiences themselves.
66. The iterative process applies to interviewers as well as to participants: the object is to become a better interviewer for later sampling days.

*Pristine inner experience.*

67. Inner experience does not follow the rules of the real world or of external perception. Said another way: to apprehend pristine inner experience with fidelity, one needs to bracket the natural attitude; said another way, one needs to engage in what the phenomenologists call the "epoché."
68. The following examples demonstrate Skinner's impoverishment of language about inner experience:
  - 68a. When Jack says "I am thinking about having a hamburger," Jack's "thinking about" refers to what happens to be Jack's idiographically-common-for-Jack way of encountering food, which happens to be *imaginarily tasting* a hamburger. And if he considers Jill's thinking about having a hamburger, he will presume that she (just like him) is imaginarily tasting a hamburger.
  - 68b. But if Jill says aloud to Jack, "I am thinking about having a hamburger," Jack will now presume that Jill's "thinking about" is referring to some sort of cognitive/analytical process, not that she is imaginarily tasting. That is, when Jack considers Jill's thinking on his own, he understands *thinking* to mean whatever is common to Jack (imaginary tasting); but when Jack considers Jill's thinking after Jill has mentioned it, he understands *thinking* to have Webster's (cognitive/analytical) meaning. Jack does not recognize that he understands *thinking* in hugely disparate ways in disparate contexts; most people are like Jack in that regard.

- 68c. If Jack himself says aloud to Jill, “I am thinking about having a hamburger,” he will likely thereafter understand that he himself had engaged in some sort of cognitive experience about hamburgers and will forget his original experience of imaginarily tasting. That is, Jack will start a sentence by saying *thinking* in his common-to-Jack meaning, but end that same sentence in a like-Webster mode. Jack will not recognize that he has made such a switch.
- 68d. When Kelly says “I am thinking about having a hamburger” she is referring to her idiographically-common-for-Kelly way of encountering food—imaginarily seeing a hamburger.
- 68e. When Larry says “I am thinking about having a hamburger” he is referring to his idiographically-common-for-Larry way of encountering food—saying in his inner voice “I’ll have a hamburger.”
- 68f. When Mary says “I am thinking about having a hamburger” she is referring to her idiographically-common-for-Mary way of encountering food—some sensed cognitive process that does not involve words, pictures, or sensations.
69. In short: When someone describes their experience as being *thinking*, you know *absolutely nothing* about what they refer to. This is an example of Skinner’s understanding that language about inner experience is impoverished.
70. DES has found that the impoverishment of language about inner experience can be overcome by the DES iterative process.
71. Here are examples of mentalistic explanations: I eat because I am hungry; he talks a lot because he is extroverted. DES participants can learn to systematically avoid giving such *because...* mentalistic pseudo-explanations.
72. A mentalistic explanation presumes the existence of a theoretical construct (hunger or extroversion in our examples) that is itself presumed to have causative power.
73. Skinner was right to be opposed to mentalistic explanations—I can see no way overcoming his objections.
74. However, directly apprehended inner experience is *not* a mentalism. There is nothing presumed or theoretical about inner experience—it is directly apprehended—and there is nothing mentalistic about describing directly apprehended phenomena. Therefore describing inner experience is exempt from Skinner’s criticism of mentalisms. Skinner would agree with all that.
75. In short, Skinner would say that DES (or any other endeavor that attempts to describe inner experience) will have to incorporate some principled method of overcoming the impoverishment of language, but as long as it limits itself to describing phenomena, it is exempt from Skinner’s critique of mentalisms.
76. Because theories of experience are usually mentalistic, investigators of pristine inner experience should firewall themselves away from theories.

***Phenomena.***

77. Inner speaking (often called inner speech) occurs in roughly a quarter of our samples, with a range of frequency from approximately zero to approximately 100% of the time (Hurlburt, Heavey, and Kelsey 2013).
78. Inner speaking on demand (when instructed, as in a psychological experiment for example, to “Say ‘elephant’”) is not the same phenomenon as naturally occurring (pristine) inner speaking. For example, inner speaking on demand likely involves tiny tongue and throat muscle movements, whereas pristine inner speaking may not involve such movements. The brain regions involved in on-demand inner speaking are likely very different from the regions involved in pristine inner speaking. (Similar conclusions obtain for most or all other phenomena.)
79. Many people believe that they engage in inner speech all or nearly all the time. Most of those people are mistaken.
80. Speaking is better understood as a verb rather than a noun (speech). Whether aloud or inner, speaking is an action, not a thing.
81. Inner speaking is often (perhaps usually) in complete sentences.
82. Inner speaking is often said to be an auditory phenomenon. Most often, inner speaking is much more experienced as an action rather than a hearing.
83. Inner hearing does occur, including inner hearing of one’s own voice speaking. Inner speaking is as distinct from inner hearing as speaking into a tape recorder is from hearing your voice played back. Same words, same voice, much different experience.
84. Inner seeing (often misleadingly called “seeing an image”) occurs in roughly a quarter of our samples, with an individual-difference range of frequency from approximately zero to approximately 100% of the time (Heavey and Hurlburt 2008).
85. For a few people, “seeing an image” is a faithful description. For those people, the image itself has characteristics; for example, it has edges, or smudges, or motion (the image seems to float away). Such is by far the exception, but Hurlburt (1990) gave examples.
86. “Seeing an image” implies that there is an image separate from the seer. For most people, that is not experientially the case: people *see* things that are not present; they do *not* experience themselves as seeing an *image of* things that are not present. [If there is an image and a separated seer, that would need to be established by some procedure other than DES.]
87. In a real-world image (e.g., a photograph), there are many details that exist in the image that are not noticed or attended to. Inner seeing very often simply omits such details and does not notice that such details have been omitted.
88. Inner seeing sometimes includes incongruous details that are not at the moment noticed as being incongruous.
89. Inner seeing can convey indeterminate characteristics.
90. Sensory awareness as understood by DES is the noticing of inner or outer sensory aspects that do not have instrumental significance. For example, if I am reaching for the door handle and I notice the shiny glint of the reflected light, that noticing is sensory awareness. The particular shininess has no instrumental significance—I can open the door regardless of whether I notice the shininess. Sensory awareness occurs in roughly a quarter of our samples, with a range of frequency from approximately zero to approximately 100% of the time (Hurlburt, Heavey, and Bensaheb 2009).
91. Sensory awareness can occur in any sense modality.

92. Sensory awareness can be of an inner sensation (e.g., a stomachache) or an external sensation (e.g., the door-handle glint).
93. Sensory awareness is directly apprehended as its own sensory presentation. It is *not* presumed (as the Sensationalists might have said) to be a building block for other higher states.
94. Unsymbolized thinking is the direct apprehension of a specific thought that presents itself without words, imagery, or other symbols (Hurlburt and Akhter 2008). For example, at a particular moment I am wondering whether I have enough gasoline to make the trip to Baltimore. There is no question that I am directly apprehending that thought, and that it is about enough gasoline, and about the trip, and about Baltimore, even though no words (“gasoline,” “Baltimore”), no images, and so on, are present.
95. Unsymbolized thinking is just as clearly apprehended as if I had innerly said, quote: “I wonder whether I have enough gas to get to Baltimore tomorrow.” Unsymbolized thinking is *not* a gist or a general sense—it is specific and directly apprehended.
96. Unsymbolized thinking occurs in roughly a quarter of our samples, with a range of frequency from approximately zero to approximately 100% of the time.
97. Feelings, understood by DES as being the direct apprehension of emotion, occur in roughly a quarter of our samples, with a range of frequency from approximately zero to approximately 100% of the time (Heavey, Hurlburt, and Lefforge 2012).
98. Emotion can occur without feelings. For example, a participant may know upon reflection that, at the moment of the beep, she was angry with her husband, yet, at the moment of the beep, she was not be experiencing anger in any direct way.
99. Feelings are sometimes experienced as having bodily manifestations; sometimes feelings have no bodily accompaniment (we call them “mental”).
100. Mental and bodily felt feelings have roughly equal frequency and roughly equal intensity or range of intensities.
101. There is no reason to hold that bodily feelings are any more “real” or “genuine” than mental feelings. When one person says “I feel it in my heart,” they are describing a sensation deep in their chest. When another person says “I feel it in my heart,” they are describing a deep emotion with no bodily aspect. There is no reason to think that one feeling is deeper or more significant than the other. The two people do not generally understand that they are describing phenomena with very different aspects.
102. People are often surprised to discover that their feelings are mental—they had assumed that their feelings are bodily.
103. People who experience bodily manifestations of feelings often incorrectly assume that everyone experiences bodily feelings.
104. In everyday language, the term *feeling* is hugely ambiguous, referring to widely varying experiences including an emotional experience (as we just saw), a sensation (I feel the stone in my shoe), an intuition (I feel he would be a good president).
105. Some everyday-language terms about colors in inner experience that are understood as being metaphorical are actually straightforwardly descriptive for some people. For example, emotions are often described as colors (I feel blue, I’m so angry I’m seeing red; I’m green with envy), and whereas those terms are pure metaphors (simple skillful language use) for some (perhaps most) people, for others, such terms are *not at all* metaphorical—they are straightforward descriptions of directly apprehended inner colors.

106. Some everyday-language terms about location of inner experience that are understood as being metaphorical are actually straightforwardly descriptive for some people. For example, experiences are often described using location terms (I was thinking that *in the back of my mind*; or *front of mind* was....) and whereas those terms are pure metaphors (simple skillful language use) for some (perhaps most) people, for others, such terms are *not at all* metaphorical—they are straightforward descriptions of directly apprehended locations.
107. DES refers to the five phenomena just described (inner speaking, inner seeing, sensory awareness, unsymbolized thinking, and feelings) as the “5FP” or the “five frequent phenomena” (Kühn et al. 2014). Each occurs more or less a quarter of the time (Heavey and Hurlburt 2008).
108. More than one of the 5FP (or any other phenomena, for that matter) can occur at a time (Hurlburt 2011).
109. The 5FP are intended to recognize that similar phenomena appear across people, and when that happens, they should be called the same thing.
110. Each of the 5FP has a wide range of variations. Inner speaking, for example, can be in your own voice or someone else’s, can include all the words in a sentence or omit some words, or involve the sense of speaking even though there are *no* words present (all the words are omitted); can appear in an inflected voice or monotone; can include the sense of hearing or not; can be aimed at a particular person, or be part of a dialog, or not; can be related to the present activity or not. Similar variability applies to each of the 5FP.
111. It is tempting to overemphasize the importance of the 5FP. DES calls that “the tyranny of the categories.”
112. The aim of DES is to provide a high-fidelity description; the aim of DES is *not* to determine whether the 5FP do or do not occur in any particular sample. To force experience into any set of categories (including the 5FP) is to undermine fidelity.
113. Pristine inner experience often involves several (sometimes many) disparate (sometimes entirely separate) processes.

My title promised you 100 things, and I have listed 113. I suspect that like all mortals, some of what I have said is not true, so I have provided 13 spares, just in case....

### **Going forward**

I fear that most or all of what I have said misses the mark in some fundamentally important way. I have written six books on this topic, and they fit into two different camps. Hurlburt (1990, 1993), Hurlburt and Heavey (2006), and Hurlburt (2011) are of one kind: rather like the above 113 points, they try to describe pristine inner experience and the characteristics of the method that I have developed to explore it.

Hurlburt and Schwitzgebel (2007) and Caracciolo and Hurlburt (2016) are of the other kind: they try to engage moments of experience in a personally concrete descriptive manner. I think it is likely that the heart of pristine inner experience and its investigation must be unveiled in a manner broadly speaking to be of this second type, or even more personally concrete ways. Metaphorically, perhaps the four books of the first type are undergraduate education; the two books of the second type are graduate training.

I have been, for the last ten-ish years, applying myself to the task of how to present the investigation of pristine inner experience in a way that advances beyond those two types; the result of that effort is the collection that we have been building on what we call the “Inner Experience Of...” (IEO) website (Hurlburt and Krumm 2020). To extend the metaphor, that site is a post doc about DES, an even-more-personal exhibition and discussion of the method. Here’s the prologue to the IEO site:

Ryan Langdon's January 28, 2020 blog "[Today I Learned That Not Everyone Has An Internal Monologue And It Has Ruined My Day](#)" drew 10,000,000 views by the end of February and sparked a firestorm of conversations around the globe.

Psychology professor Russ Hurlburt is the originator of Descriptive Experience Sampling (DES), a research method that uses a beeper to trigger the investigation of inner experience. His results are what ruined Ryan's day: Hurlburt has found that whereas some people do experience constant internal monologues, many (perhaps most) people do not.

Many have wondered how DES works, wondered about the basis of Hurlburt's claims. He has [written](#) six books and many articles on the topic, but has never opened the process up to real-time examination from beginning to end--until now. This site publicly unfolds the DES process as it occurs, first with Lena (who believed herself to have ubiquitous inner monologue), then with Ryan Langdon himself, then with a variety of other participants. (Hurlburt and Krumm 2020, n.p.)

That freely available site presents 100ish hours of DES interviews, currently with 13 participants in addition to Lena, each with unredacted video, transcripts, and commentary. It is the commentary embedded in the interviews that I think is revelatory about pristine inner experience and DES in ways that are not possible (or at least not in ways that I have found possible) in books, articles, or chapters such as the one you are reading. Those comments give me the opportunity to say what I think is important about the inner experience, or about the interview, tied directly to specific moments of the interview. In those cases, the context about which I am commenting is directly available to the viewer/reader. DES and fidelity are about specific moments, not abstractions. The IEO site does not present abstract comments; the comments there are directed precisely at what person *X* said about experience *Y* at time *Z*; the viewer knows as much about *X*, *Y*, and *Z* as I do.

The commentary is often in the form of discussion / debate between me and co-interviewers, or between me and participants. The co-interviewers are mostly graduate students, so the discussions are often between two investigators of different levels of experience.

I don’t take those discussions to be instances of revealed Truth, but they are my attempts to be transparently forthcoming about concrete instances; they are therefore personal, confrontational, supportive, analytical and pointed. I think anyone interested in the 113 items above will profit from additional exploration using the Lena site.

In short, I think pristine inner experience is apprehendable with substantial fidelity, and I think there would be substantial utility to science to integrate explorations of pristine inner experience into the scientific canon. I consider my work to be something of a demonstration of that. However, I don't know whether to be optimistic about whether pristine-inner-experience explorations will actually provide a realistic contribution to science. I have not been successful in training others to be what I would consider effective explorers of pristine inner experience, and I don't know why that is other than that there have been for many generations powerful forces arrayed (mostly under the table) against such explorations. But despite having little evidence in support, I do think there is widespread and genuine interest in pristine inner experience that, over the long haul, will force science into its careful consideration.

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<Footnote 1>

This is a representative list of the kinds of things I was trying to make sense of:

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<footnote 2>

The fidelity of DES (or any other inner-experience method) has not been established. Hurlburt has tried create a method that aspires to fidelity in as many principled ways as he can incorporate and to be transparent about how that incorporation takes place and what its deliverances are.