

***Strange Bedfellows:
Ludwig Wittgenstein and the National Institutes of Health
On the Language of Pain***

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December 28, 2012***

Most members of our APA—the American Philosophical Association—will be familiar with Ludwig Wittgenstein’s discussion of pain in his *Philosophical Investigations*. Most members of another APA—the American Psychological Association—will know about a new approach to the assessment of pain being developed by the National Institute of Health’s PROMIS initiative. In this paper we will explore the relationship between the two by asking whether the contemporary scientific approach to the assessment of pain is consistent with the remarks Wittgenstein makes about pain in his *Philosophical Investigations*. Our purpose is not to give anything like a full account of their relationship, but to call the attention of philosophers to this important initiative and suggest some opportunities for dialogue with their colleagues in the social and behavioral sciences.¹

PROMIS² is an acronym for Patient Reported Outcomes Measurement Information System, a multi-year, multi-site, multi-million dollar project sponsored by the National Institutes of Health as part of an initiative “to chart a roadmap for medical research in the 21st century.”³ Its objective is to develop item banks that measure patient-reported health status⁴ in order to standardize clinical research, and ultimately to assist individual practitioners in the clinical assessment of patients.

PROMIS researchers classify patient-reported health status in several domains under the headings of physical, mental and social health. Pain is included as a symptom of physical health. It is defined as “an unpleasant sensory and emotional experience... divided conceptually into components of quality (referring to the nature, characteristics, intensity, frequency and duration of pain), interference with activities (impact upon physical, mental and social activities) and avoidance behaviors (behaviors one engages in to avoid, minimize or reduce pain).”⁵

¹ This address is in the spirit of Wilfrid Sellars’ comments about “knowing one’s way around” in Wilfrid Sellars, “Philosophy and the Scientific Image of Man”, published in *Frontiers of Science and Philosophy*, ed.

² Information about PROMIS is accessible at <http://www.nihpromis.org/> (October 14, 2011)

³ David Cella, et al., *The Patient-Reported Outcomes Measurement Information System (PROMIS): Progress on an NIH Roadmap Cooperative Group During its First Two Years*, *Medical Care*, 45 (5 Suppl 1: S3 – S11 May 2007, p. 2.

⁴ An item bank is a set of “carefully calibrated questions that define and quantify a common concept and thus provide an operational definition of a trait.” *ibid.*

⁵ David Cella, et al., “The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008”, *Journal of Clinical*

Most of Wittgenstein's remarks about pain in the *Philosophical Investigations* are in the sections on private language,⁶ which is part of a more extended consideration of how words referring to interior mental acts or experiences are related to their meanings in conventional language. Wittgenstein's remarks suggest that the traditional view—that the experience of pain is an essentially private experience that only subsequently becomes associated with words to describe it—is based on a misunderstanding of how words acquire meaning.

The procedures used by Wittgenstein and the PROMIS initiative could not be more disparate. Wittgenstein's research was conducted alone in his chambers at Trinity College or in a desolate village in Galway. The only social aspects to his research involved quizzing a few lecture students or engaging close friends in discussion.⁷ His subject is the individual consciousness in dialogue with itself. His intent and methods are often unclear; the structure of his work labyrinthine.⁸ G.E. Moore described his way of thinking in the *Philosophical Investigations* as "very different from what is required in the sciences."⁹ However, by all accounts, his work is profound and insightful, though easily subject to misinterpretation.¹⁰

The PROMIS initiative, by contrast, is big science, involving hundreds of collaborators at dozens of universities. Its purpose, scope and organization are meticulously laid out, and the research is organized in a rational, systematic fashion. Its methods are empirical and statistical. It focuses not on individual consciousness but on patterns of responses to standardized item banks among representative populations. Its language is that of contemporary social and behavioral science; its literature made up of Internet pages,¹¹ conference reports and peer-reviewed journal articles.

Epidemiology, Volume 63, Issue 11, November 2010, Pages 1179-1194, §1.1.1.3.;
<http://www.nihpromis.org/measures/domainframework1>

⁶ Ludwig Wittgenstein, *Philosophical Investigations*, §§243—315. Cited as *PI* with section number or page.

⁷ Norman Malcolm, *Ludwig Wittgenstein: A Memoir*, Oxford University Press, 1984.

⁸ Marie McGinn, *Wittgenstein and the Philosophical Investigations*, Rutledge, 1997, pp. 9 - 10

⁹ G. E. Moore, "Wittgenstein's Lectures 1930-33" in *Ludwig Wittgenstein: The Man and His Philosophy*, ed. K. T. Fann, Harvester Press, 1978, p. 44.

¹⁰ Garth Hallett, *A Companion to Wittgenstein's "Philosophical Investigations"*, Cornell University Press, 1977 and P.M.S. Hacker, *Wittgenstein: Meaning and Mind*, Vol. 3, Basil Blackwell, 1990, are valuable guides.

¹¹ The principal Internet address for PROMIS is <http://www.nihpromis.org/>.

Bridging the gap between Wittgenstein and PROMIS requires some assistance. Fortunately we can find it in a paper written fifteen years ago by Mark D. Sullivan, MD, a specialist in pain medicine with a PhD in philosophy. His insightful article in *Pain Forum*¹² looks at the implications of Wittgenstein's investigations for contemporary pain studies.

Inspired by the *Philosophical Investigations*, Sullivan makes the case for a radical redesign of the way scientists and physicians think about pain. He argues that traditional interpretations, which provide the basis for much of current pain theory, consider pain "an immediate, subjective, and private experience of the individual."¹³ On this view, words referring to pain are treated as vehicles for communicating preconceptualized or "raw" sensations.¹⁴ Because pain is accessible only from a first-person perspective, the pain of others can be known only by inference. Self-report of pain thus becomes the gold-standard against which other measures of pain are evaluated.

Psychological models of pain processing, which provide the theoretical basis for psychotherapeutic interventions, distinguish between the immediate sensation of pain and the person's cognitive and affective responses to it. "Pain intensity, sensory qualities of pain, and pain threshold," Sullivan says, "are considered somatic phenomena. Pain affect, pain meanings, and pain tolerance are considered psychogenic phenomena."¹⁵ Cognitive-behavioral or rational-emotive therapies based on this model are designed to correct distorted interpretations of pain sensations.

Sullivan argues that once pain theorists come to appreciate, with Wittgenstein, that all aspects of adult human pain are "mediated by the conceptual structure of our language",¹⁶ everything

¹² Mark D. Sullivan, "Pain in language: From sentience to Sapience", *Pain Forum*, Volume 4, Issue 1, Spring 1995, Pages 3-14. *Pain Forum* is now the *Journal of Pain*, the official journal of the American Pain Society.

¹³ *ibid.* p. 3.

¹⁴ *ibid.* p. 6.

¹⁵ *ibid.* p. 11

¹⁶ *ibid.* p. 4.

changes. Adult human pain becomes “an inherently social phenomenon”¹⁷ and the idea of pain as something private and prior to language goes away.

Following Wittgenstein, Sullivan argues that because “a language based entirely on private pain sensations could not distinguish between correct and incorrect use of pain words” it cannot not have real meaning. Instead, words describing pain acquire their meanings as “extensions of natural pain expressions” which are intended to provoke actions in others. The meaning of pain words, therefore, lies in their use, not in their reference to sensations. As pain expressions become differentiated through social use, we learn to differentiate pain experiences within ourselves. Simultaneously we learn to apply pain to others. “What is given to us first and foremost,” Sullivan concludes, “is not a determinate sensation of pain but a form of life in which pain has a specific place.”¹⁸

This change in perspective has implications for research and clinical practice. Once self-report of pain is recognized as a culturally mediated form of linguistic pain behavior it can no longer serve as the gold standard for the measurement of other pain behaviors.¹⁹ Pain behaviors, including self-reports, are not validated by confirming their correspondence with pain sensations, but are evaluated “within a wider social context.”²⁰ Pain researchers must adjust for the fact that expressions of pain are relative to linguistic communities and the narratives they create concerning pain.²¹

With this new theoretical underpinning, psychotherapeutic interventions shift from an event-interpretation model to a narrative construction model. In the event-interpretation model, “therapy is designed to correct distorted interpretations of sensory events.” In the narrative construction model, “the notion that the interpreted event ... has an independent and fixed

¹⁷ *ibid.* p. 3.

¹⁸ *ibid.* p. 7.

¹⁹ *ibid.* p. 5.

²⁰ *ibid.* p. 8.

²¹ *ibid.* p. 10.

reality disappears. Therapy no longer strives to correct distortions, but to construct narratives that promote function.”²²

Sullivan quotes from a 1985 article by Ronald Melzack, a leading pain researcher. “It is not as if there is one reality and clients distort that reality, thus contributing to their problems; rather, there are multiple realities, and the task for the therapist is to help clients become aware of how they create those realities and the consequences of such constructions.”²³

What is given, Sullivan concludes, is not the pain event, but a narrative and a form of life within which it occurs. The traditional view that the biological must pass through the psychological to reach the social domain is reversed in that “the social, through language, mediates the relationship between the biological and the psychological.”²⁴

With Sullivan’s analysis in mind, we will examine how well the theoretical underpinnings of the PROMIS initiative jibe with the sections on private language in the *Philosophical Investigations*.²⁵

It is significant that Wittgenstein’s discussion of private languages follows immediately upon a discussion of measurement. In §242, he says that what we call measurement is partly determined by a certain constancy in its results. This will come to be a crucial element in his critique of private language. If there is no way to know whether a person is using a word consistently to refer to a sensation from one time to the next, Wittgenstein will argue, the word can have no meaning. It will also be seen as a crucial element in the PROMIS initiative’s attempts to validate their item banks. Only when the measurements obtained from them have a “certain constancy” will they be deemed valid measures of pain.

²² *ibid.* p. 12.

²³ Ronald Melzack, Pain and Parallel Processing, *Behavioral and Brain Sciences* 8:67-68, 1985.

²⁴ Sullivan, p. 13.

²⁵ We are cognizant of the warning issued by P.M.S. Hacker that “as one plunges into the tropical undergrowth of the great private language arguments, it is all too easy to lose one’s bearings. The path is overgrown with prevalent misinterpretations, and dark distorting shadows are cast across it by our disposition to extract theories from Wittgenstein’s descriptions.” *Wittgenstein: Meaning and Mind*, Vol. 3, Basil Blackwell, 1990, p. xv. To avoid these dangers, we will stay on the better travelled roads, avoiding, to the extent possible, the darker, darker precincts.

Wittgenstein's objective in the sections on private language is to dispel the notion that words referring to "inner experiences", such as pain, derive their meaning simply through association with the experiences they refer to. By "inner experiences" he means those feelings, moods, and the like that "can only be known to the person speaking."²⁶ The simplest model for creating an association between a word referring to a pain and the experience of it would be for the individual with pain to "invent a name for the sensation."²⁷ While it is obvious that the person in this situation would not be able to make his meaning understood to others, what is not so obvious is that the word would not even have meaning for its inventor.

To demonstrate this, Wittgenstein asks his reader to imagine that someone keeps a diary in which he attempts to record the occurrence of a particular sensation by writing the sign "S" each time he experiences it, trying, as it were, to give himself a private ostensive definition of it. The project, however, is doomed to failure because, as Wittgenstein says, there is "no criterion of correctness"²⁸—no way for the person to know whether the sensation he is experiencing is sufficiently similar to prior experiences to warrant the application of "S" to it. There are, after all, certain behavioral criteria for judging that a person knows how to use a word correctly.²⁹ If a person could show that his writing of the sign "S" has a use—if, for example, he could demonstrate that each time he writes "S" in response to a sensation his blood pressure rises—his sign would have meaning and questions about whether or not he got the connection between the sign and his sensation right would be irrelevant.³⁰

The impossibility of creating meaning from purely private sensations is further demonstrated by considering what would happen if each person had a box that no one else can see into. Suppose the box contains what they call a "beetle." Since no one can look at anyone else's beetle, the box might contain anything at all—or nothing for that matter. What is in the box is completely irrelevant. So it would be with pain, if the meaning of the word 'pain' were based solely on private sensations.

²⁶ *PI*, §243.

²⁷ *PI*, §257.

²⁸ *PI*, §257.

²⁹ *PI*, §269.

³⁰ *PI*, §270. I follow Hacker's interpretation of this section. Hacker, p. 133 – 137.

The meanings of pain words do not derive from associations with pain sensations, but from their uses in language and in “forms of life.” Wittgenstein says that in many cases “the meaning of a word is its use in the language.”³¹ He suggests that words expressive of pain acquire meaning through their connections with more primitive natural expressions of pain, such as wincing or crying, and come to be used in their place. “A child has hurt himself, and he cries; and then adults talk to him and teach him exclamations and, later, sentences. They teach him new pain-behavior.”³² In like fashion, our appreciation of the pain of others is not based on an inference that they experience something analogous to our own sensations, but on our learning to use pain language appropriately in our interactions with them.³³

The PROMIS researchers’ treatment of pain is generally consistent with the approach implied in Wittgenstein’s remarks although there are some aspects of the relationship between pain and language identified by Wittgenstein, but not mentioned in the PROMIS literature, that suggest lines of inquiry for future research.

Consistent with Wittgenstein’s statement that the meaning of a word is determined by its use in language, the terms used in the PROMIS domain names and item banks were selected primarily for their utility. PROMIS researchers began by developing a “domain map” or conceptual framework for conducting their research in order to identify “the most useful response sets.”³⁴ Then they built “libraries” for each domain by collecting items from existing questionnaires and classifying them according to their content. Once sets of candidate items were sorted into domains, the researchers eliminated items that were redundant or did not fit in the domain to

³¹ *PI*, §43.

³² *PI*, §244. It is interesting to note that Wittgenstein reads the distinction between exclamations and sentences back into the process by which adults teach children to express pain in words. While exclamations may be more spontaneous forms of expression, it is unlikely that adults teach children exclamations first and introduce sentences only later.

³³ While we cannot know the object of Wittgenstein’s critique for certain, Marie McGinn’s suggestion that it is the introspective approach advocated by William James is plausible, although she may have overstated James’s trust in introspection. While he says that “Introspective Observation is what we have to rely on first and foremost and always.” (*The Principles of Psychology*, Dover, 1950, p. 185) he also concluded that “introspection is no sure guide to truths about our mental states.” (p. 197) James was well aware of the “Misleading Influence of Speech” and the grammatical confusions it may cause.

³⁴ Cella 2007 p. 5.

create smaller sets for field testing. These activities (called binning and winnowing) were carried out through a process of expert consensus.³⁵

Although utility was their primary concern, the researchers also considered comprehension and exactness of representation. They aimed to identify “items that cover the range of experience in the domains to be measured and items that can add precision to the final estimate of the latent trait.”³⁶ The term “latent trait” here refers to what is being measured by the item bank—pain, fatigue, quality of life, etc. Traits are latent in the sense that they are not directly observable.

To validate the relevance of their questions to the experiences of potential respondents, PROMIS researchers used focus groups and cognitive interviews to get feedback regarding the “current conceptualization of each domain.” Their purpose was to “improve the likelihood that our items will be understood and interpreted as intended”, and to “improve the chance that our items reflect important patient experiences.”³⁷

The researchers used focus groups comprised of patients of various ages, cultures, conditions and experiences to discover the vocabulary and thinking patterns of the target group. It was important, the researchers said, “to make sure we were addressing topics that reflect how potential respondents experience the world.”³⁸

Cognitive feedback interviews were used to determine what “the specific words and phrases in the question mean to the respondent.”³⁹ Although the researchers recognized that “many respondent characteristics may be associated with different interpretations of items,” they focused initially on differences according to reading level, educational level, racial group and diagnosis.⁴⁰

³⁵ *ibid.* p. 6.

³⁶ Darren A. DeWalt, et al., “Evaluation of Item Candidates: The PROMIS Qualitative Item Review”, *Medical Care*, May 2007, 45(5 Suppl 1)

³⁷ *ibid.* p. 9.

³⁸ *ibid.* p. 7.

³⁹ *ibid.*

⁴⁰ *ibid.* p. 8.

PROMIS researchers thus avoid many of the problems identified by Wittgenstein. While acknowledging the “latency” of the traits they intend to study, they explore the link between PROMIS definitions and the interior experience of potential respondents by querying groups of individuals who are highly likely to have experienced the condition they are trying to measure, using words that are common in the language. It makes no difference to their analysis what the private experience of people might be; the only thing that makes a difference is how they describe it.

The development of two item banks related specifically to pain have been described in the PROMIS literature, one related to pain interference and the other related to pain behavior. Both of these item banks were subjected to the qualitative reviews we have just described. In addition, they were evaluated quantitatively in terms of their psychometric properties.⁴¹

The pain interference item bank started as a library of 644 items drawn from existing questionnaires which were eventually winnowed down to 41. As part of their qualitative review, researchers interviewed persons who had experienced pain “to ensure that [items] were meaningful to and easily understood by individuals living with pain.”⁴² Persons interviewed were selected from clinical settings and disease registries.⁴³

The pain interference bank was administered to a large sample of 14,848 respondents and a smaller sample of 1,055 individuals who were “likely to experience chronic pain.” These latter were recruited from cancer clinics and the American Chronic Pain Association. In addition to the item bank, respondents were questioned about their general health and the intensity of their pain.

⁴¹ Dagmar Amtmann, et al. Development of a PROMIS item bank to measure pain interference”, *Pain*, 150, 2010, pp. 173 – 182.

⁴² *ibid.* p. 174.

⁴³ Dewalt, p. 8.

Responses were analyzed using a unidimensional item response theory (IRT) model.⁴⁴ According to Wikipedia, IRT models are also referred to as latent trait models. Responses to questionnaire items are “taken to be observable manifestations of hypothesized traits, constructs, or attributes, not directly observed, but which must be inferred from the manifest responses.”

A unidimensional IRT model is based on “the assumption that a single latent construct drives the variance in scores.”⁴⁵ In their article on the PROMIS initiative, David Cella and his colleagues explain that there are two fundamental assumptions embedded in unidimensional IRT models: “that a single trait determines how people respond to items and that those items are locally independent, that is, there should be little association between responses to 2 items beyond that accounted for by the underlying trait.”⁴⁶ A confirmatory factor analysis was used to verify unidimensionality. The analysis revealed that pain interference accounted for 86% of the variance, a strong indicator of unidimensionality.⁴⁷

These psychometric techniques are based on a mathematical model that “allows comparison of the patterns of actual responses to those predicted by the model. How closely the actual data correspond to the predictions of the model can be quantified and summarized by goodness-of-fit statistics. These statistics compare expected and observed frequencies of item category responses for various levels of scores and quantify the differences between [them].”⁴⁸

The construct validity of the item bank was then evaluated by comparing pain interference scores to the scores on surveys of other similar domains and to global health and pain intensity ratings. Construct validity was confirmed by demonstrating that variances in the pain interference scores distinguished among subgroups differentiated by the number of chronic and disabling conditions and ratings of global health and pain intensity. In fact, “the scores increased

⁴⁴ http://en.wikipedia.org/wiki/Item_response_theory. Accessed 12/13/11.

⁴⁵ Amtmann, p. 176.

⁴⁶ Cella et al. p. 7.

⁴⁷ The authors note (p. 179.) that, “Responses to self-reported items measuring complex constructs are never strictly unidimensional,” although analyses support the conclusion that it is a homogeneous construct.

⁴⁸ *ibid.* p. 176.

stepwise with increases in number of chronic conditions, disabling conditions and decreases in reported general health.”⁴⁹

Finally the item bank was evaluated in terms of differential item functioning, which examines differences ‘based on sub-group membership.’ The authors explain that, “In the context of pain interference measurement, persons of different ages, education levels, race/ethnicities, and genders who have equal levels of pain interference should be equally likely to endorse a particular category of a specified...item. For example, men and women who are equal in their levels of pain interference should be equally likely to respond ‘somewhat’ to the item ‘how much did pain interfere with work around the house?’”⁵⁰ Apart from a few items related to gender and age, no significant differential item functioning was detected. The authors acknowledge that “it would be useful to expand the evaluation to additional subgroups” based on specific pain conditions, health conditions, or ethnic/racial identity.

The cumulative result of all this testing was the conclusion that these “items constitute a psychometrically sound item bank for assessing the negative effects of pain on functioning in the range experienced by the vast majority of people who have pain.”⁵¹

The same techniques were used to validate a pain behavior item bank.⁵² Although the most objective approach to the measurement of pain behavior is direct observation, the use of patient reports of pain behavior is easier, faster, and less costly. The qualitative and quantitative reviews were identical to those used for the pain interference item bank and yielded analogous results.

By confining themselves to the publicly observable realm of language use, the PROMIS researchers remain remarkably exempt from Wittgenstein’s critique of the notion that pain words derive their meaning from association with private pain sensations.

⁴⁹ *ibid.* p. 178.

⁵⁰ *ibid.*

⁵¹ *ibid.* p. 178.

⁵² Dennis Revicki, et al., Development and psychometric analysis of the PROMIS pain behavior item bank, *Pain*, 146, 2009, pp. 158 – 169.

Their quantitative methods reveal patterns of relationships among survey results that are reliably indicative of variations in the “latent traits”—such as pain or pain interference—they are attempting to measure. The latent traits appear in their literature, not as sensations, but as “constructs” fashioned out of words in ordinary use. The link between the “pain construct” and the “pain experience” is interpreted not in terms of formal identity or correspondence, but in terms of reference and relevance to the experiences of people in pain.

The fact that the construction of instruments to measure pain depends on validation by people identified as being in pain seems to involve a vicious circle. How can people be known to be in pain unless their pain can somehow be ascertained? The PROMIS researchers skirt this issue by selecting samples from among people who are most likely to be in pain: patients with cancer, members of the Chronic Pain Association, and the like. No doubt there will be variations in the intensity and types of pain they experience, and no doubt some will have hidden motives for exaggerating or minimizing their pain, but taken as a whole, as a representative clinical sample, the variations will fall into place along the predictable curves of statistical models.

However, despite their appreciation of the social aspects of pain language, the PROMIS researchers seem to be somewhat short-sighted about potential differences in the way pain is described or expressed across cultures. They tested for differential item functioning across educational, gender, age and simplistic racial and ethnic categories, and obtained a few relatively insignificant results. Although they acknowledged that “it would be useful to expand the evaluation to additional subgroups”, the few they mentioned—specific pain conditions, health conditions, or ethnic/racial identity—may not be the most relevant.

A more fruitful line of inquiry might be to test for differences among subgroups who may be culturally conditioned to use pain words differently. For example, there may be systematic differences in the way pain is expressed among military personnel or serious athletes, requiring recalibration of the item banks when they are used in military or sports medicine. For the same reasons, instruments might require independent validation for use in prisons, drug rehabilitation programs or other communities with unique “pain narratives.”

Another area for future research suggested by Wittgenstein's investigations is related to the various ways the PROMIS instruments might be used. The researchers are clear that their primary intent is to create instruments for use in clinical research, but one team expressed a hope that they "may also assist individual practitioners in assessing patients' responses to interventions and modifying treatment plans on the basis of these responses."⁵³ Another team expressed a desire to associate changes in scores with actionable events, such as changes in medications or referral to specialists.⁵⁴

Using PROMIS item banks to help guide individual clinical practice represents a significant change in the use or function of the item banks, which may or may not affect the meaning of the terms involved. At first glance, it seems plausible that the meaning of the items would remain stable whether they are used in a research or clinical setting, but Wittgenstein's remarks about meaning as use-in-language should alert us to the possibility that a shift in use might result in a shift in meaning. In a research setting it may generally be assumed that respondents' responses represent authentic attempts to describe or report their pain; but in a clinical setting their responses may be more like expressions of pain than reports of it, more help-seeking than objective, and more prone to manipulation than they might be in a research setting.

Wittgenstein suggests that the meaning of words can shift when they are used in different language games. To use a familiar example from an early section of the *Philosophical Investigations*,⁵⁵ the phrase "five slabs" means one thing when it is used to report the presence of five slabs and another when it is used to order someone to bring five slabs. Similarly, the phrase, "I have so much pain I can't get out of bed in the morning" may have one meaning as a factual report of pain interference and another as a plea for additional pain medication.

⁵³ Cella 2007 p. 2

⁵⁴ Amtmann p. 181.

⁵⁵ *PI*, §21.

At a practical level, this suggests that the PROMIS item banks—like any other rating scale—should be used in clinical practice only in the context of a more comprehensive assessment of the patient’s pain and health status. Researchers may find it helpful to develop protocols and techniques for detecting dissimulation or manipulation when item banks are used clinically and they may find it useful to retest their tools for validity in clinical settings.

A final comment. In the preceding remarks we have been considering the implications of Wittgenstein’s critique for the PROMIS initiative; but we should note that the approach taken by the contemporary scientific community might help philosophers gauge the meaning and validity of Wittgenstein’s remarks.

The fact that the scientific community has taken an approach to the measurement of pain that is so consistent with Wittgenstein’s remarks suggests that despite their perplexing character, Wittgenstein’s comments may have meaning for a real-world health care initiative. To appreciate the implications of the PROMIS literature for an understanding of Wittgenstein, however, it will be necessary to look more closely at the links between the methods used by the researchers and the grammatical therapies offered by Wittgenstein.

The epistemological problems that inspire many of Wittgenstein’s comments—questions about how individuals conceptualize their own pain or come to know the pain others—are addressed, sometimes implicitly, in the methods used by the researchers. The techniques of creating domain maps, collating existing item banks, binning and winnowing, focus groups, cognitive interviews, IRT analyses, construct validation, and the evaluation of differential item functioning, all converge on the questions of how pain is conceptualized and measured in a way that is precise, reliable, and reflective of the other’s experience.

The difficulty for philosophers (or at least for this philosopher) lies with the technical complexities of the psychometric methods used by modern behavioral scientists, which to the naïve observer can look like epistemological sleight of hand. The task the behavioral scientists have set for themselves—to demonstrate that their instruments are valid measures of traits which cannot be directly observed—cannot be accomplished using simplistic methods or simplistic

notions of validity. It behooves us then to acquaint ourselves with these methods and this literature if we are to explore the meaning of pain and other latent traits without falling into the conceptual traps that Wittgenstein has pointed out to us.