request of both Hijab and Anscombe, dealt with issues in the philosophy of religion. By the end of the year she had become one of Wittgenstein's closest friends and one of his most trusted students, an exception to his general dislike of academic women and especially of female philosophers. She became, in fact, an honorary male, addressed by him affectionately as 'old man'. 'Thank God we've got rid of the women!' he once said to her at a lecture, on finding, to his delight, that no (other) female students were in attendance.

Anscombe was, at this time, an enthusiastic admirer of Kafka, and in an effort to share her enthusiasm she lent Wittgenstein some of his novels to read. 'This man', said Wittgenstein, returning them, 'gives himself a great deal of trouble not writing about his trouble.' He recommended, by comparison, Weininger's *The Four Last Things* and *Sex and Character*. Weininger, he said, whatever his faults, was a man who really did write about his trouble.

This directness – this determination to strip away all inessentials and all pretence, to 'extract the root' – could be unsettling as well as inspiring, and Anscombe was fairly rare in finding it liberating. Iris Murdoch, who attended a few of Wittgenstein's last series of lectures, found both him and his setting 'very unnerving':

> His extraordinary directness of approach and the absence of any sort of paraphernalia were the things that unnerved people . . . with most people, you meet them in a framework, and there are certain conventions about how you talk to them and so on. There isn't a naked confrontation of personalities. But Wittgenstein always imposed this confrontation on all his relationships. I met him only twice and I didn't know him well and perhaps that's why I always thought of him, as a person, with awe and alarm.

The student for whom Wittgenstein had the greatest respect during this period was Georg Kreisel. Originally from Graz, Kreisel came to Trinity in 1942 as an undergraduate mathematician, and attended the lectures on the philosophy of mathematics that Wittgenstein gave during the war. In 1944 – when Kreisel was still only twenty-one – Wittgenstein shocked Rhees by declaring Kreisel to be the most able philosopher he had ever met who was also a mathematician. 'More able than Ramsey?' Rhees asked. 'Ramsey?!' replied Wittgenstein. 'Ramsey was a mathematician!'

Although he had not written on the philosophy of mathematics for over two years, during 1946 and 1947 Wittgenstein had regular discussions with Kreisel on the subject. Unusually, the tenor of these discussions was set by Kreisel rather than Wittgenstein, and when Wittgenstein's remarks on mathematics were published after his death, Kreisel expressed astonishment at their tendency. After reading *Remarks on the Foundations of Mathematics*, Kreisel wrote, he realized that the topics raised in the discussions he had had with Wittgenstein: 'were far from the centre of his interest though he never let me suspect it'.

Stimulated by his discussions with Kreisel, Wittgenstein, in his last year at Cambridge, added regular seminars on the philosophy of mathematics to his weekly classes on the philosophy of psychology. Kreisel, however, remembers the discussions as being of more value than the seminars. Wittgenstein's public performances, he said, he found 'tense and often incoherent'.

Kreisel was not the stuff of which disciples are made, and after leaving Cambridge he studied with Kurt Gödel and became a leading figure in the very branch of mathematics against which Wittgenstein's work is an assault: the 'cancerous growth' of mathematical logic. 'Wittgenstein's views on mathematical logic are not worth much', he later wrote, 'because he knew very little and what he knew was confined to the Frege–Russell line of goods.' When the *Blue and Brown Books* were published, his dismissal was couched in still stronger, perhaps even bitter, terms. 'As an introduction to the significant problems of traditional philosophy', he wrote in his review, 'the books are deplorable':

> This is largely based on a personal reaction. I believe that early contact with Wittgenstein's outlook has hindered rather than helped me to establish a fruitful perspective on philosophy as a discipline in its own right.

Wittgenstein himself often felt that he had a bad influence on his students. 'The only seed I am likely to sow', he said, 'is a certain jargon.' People imitated his gestures, adopted his expressions, even wrote philosophy in a way that made use of his techniques – all, it seems, without understanding the point of his work.

He tried again and again to make this point clear. His last series of

lectures began with an emphatic and unambiguous statement of their purpose: that of resolving the confusions to which the notion of psychology as the 'science of mental phenomena' gives rise:

> These lectures are on the philosophy of psychology. And it may seem odd that we should be going to discuss matters arising out of, and occurring in a science, seeing that we are not going to do the science of Psychology and we have no particular information about the sort of things that are found when the science is done. But there are questions, puzzles that naturally suggest themselves when we look at what psychologists may say, and what non-psychologists (and we) say.
>
> Psychology is often defined as the science of Mental Phenomena. This is a little queer, as we shall see: contrast it with physics as the science of physical phenomena. It is the word 'phenomena' which may be troublesome. We get the idea: on the one hand you have phenomena of one kind which do certain things, on the other, phenomena of another kind which do other things: so how do the two sorts of things compare? But perhaps it makes no sense to say that both do the sort of things the other does. 'The science of mental phenomena' – by this we mean what everybody means, namely, the science that deals with thinking, deciding, wishing, desiring, wondering . . . And an old puzzle comes up. The psychologist when he finds his correlations finds them by watching people doing things like screwing up their noses, getting rises in blood pressure, looking anxious, accepting this after S seconds, reflecting that after S plus 3 seconds, writing down 'No' on a piece of paper, and so on. So where is the science of mental phenomena? Answer: You observe your own mental happenings. How? By introspection. But if you observe, i.e., if you go about to observe your own mental happenings you alter them and create new ones: and the whole point of observing is that you should not do this – observing is supposed to be just the thing that avoids this. Then the science of mental phenomena has this puzzle: I can't observe the mental phenomena of others and I can't observe my own, in the proper sense of 'observe'. So where are we?

His answer to this last question is: in a fog, a set of confusions that cannot be resolved by the accumulation of more data – either by introspection or by behavioural analysis. Nor can they be resolved by a *theory* of thinking. The only thing capable of clearing the fog is a conceptual investigation, an analysis of the use of words like 'intention', 'willing', 'hope' etc., which shows that these words gain their meaning from a form of life, a 'language-game', quite different from that of describing and explaining physical phenomena.

The lectures for the first two terms covered roughly the same ground as that covered in the last third of *Investigations*, Part I: the question 'What is thinking?', the analysis of 'mental phenomena' and the investigation of particular psychological concepts such as 'intention', 'willing', 'understanding' and 'meaning'.

Wittgenstein had by now a good appreciation of the ways in which his approach to philosophical problems was liable to be misunderstood, and he devoted much time in these lectures to an attempt to describe his philosophical method. In addition, he gave a talk to the Moral Science Club on: 'what I believe philosophy is, or what the method of philosophy is' (as he put it in a letter to Moore asking him to attend). One common cause of confusion was that, though he began with a question ostensibly about a *phenomenon* ('What is thinking?'), he ended up with an investigation into the way we use *words* (like 'thinking').

In his second lecture he summed up the unease that many people feel about this procedure when he summarized what had been said in the previous session:

> Now let us go back to last day. You must remember I suggested (i) we want analysis. This wouldn't do unless it meant (ii) we want the definition of thinking. And then I made a fishy step. I suggested: Perhaps we really want the use of 'thinking'. 'But', you say, 'clearly, we don't want to know about the "use of words". And, in a sense, we clearly don't.

This is, we don't want to know about the use of words for its own sake. The point of describing the (real and imagined) use of words was to loosen the hold of the confused way of looking at things that is the product of the philosopher's 'impoverished diet' of examples:

> What I give is the morphology of the use of an expression. I show that it has kinds of uses of which you had not dreamed. In

philosophy one feels forced to look at a concept in a certain way. What I do is suggest, or even invent, other ways of looking at it. I suggest possibilities of which you had not previously thought. You thought that there was one possibility, or only two at most. But I made you think of others. Furthermore, I made you see that it was absurd to expect the concept to conform to those narrow possibilities. Thus your mental cramp is relieved, and you are free to look around the field of use of the expression and to describe the different kinds of uses of it.

Another problem with this method was that, in providing a richer diet of examples, Wittgenstein was in danger of leading his students through the trees without giving them a glimpse of the wood. As two of these students, D. A. T. Gasking and A. C. Jackson, recall, the difficulty in following the lectures: 'arose from the fact that it was hard to see where all this rather repetitive concrete detailed talk was leading to – how the examples were inter-connected and how all this bore on the problems which one was accustomed to put oneself in abstract terms'.

This problem, too, Wittgenstein was aware of. 'I am showing my pupils details of an immense landscape', he wrote, 'which they cannot possibly know their way around.' In his lectures he elaborated on the analogy:

> In teaching you philosophy I'm like a guide showing you how to find your way round London. I have to take you through the city from north to south, from east to west, from Euston to the embankment and from Piccadilly to the Marble Arch. After I have taken you many journeys through the city, in all sorts of directions, we shall have passed through any given street a number of times – each time traversing the street as part of a different journey. At the end of this you will know London; you will be able to find your way about like a born Londoner. Of course, a good guide will take you through the more important streets more often than he takes you down side streets; a bad guide will do the opposite. In philosophy I'm a rather bad guide.

In his writing, too, Wittgenstein was concerned that he might be spending too much time traversing side streets. He was, he said, a long way from knowing 'what I do and don't need to discuss' in the book:

> I still keep getting entangled in details without knowing whether I ought to be talking about such things at all; and I have the impression that I may be inspecting a large area only eventually to exclude it from consideration.

Although he referred to the typescript he had prepared the previous year as 'my book', he was deeply dissatisfied with it, particularly with the last third of it – the analysis of psychological concepts that had largely been drawn from earlier manuscripts. Nevertheless, one afternoon a week he met with Norman Malcolm (who was in Cambridge during Wittgenstein's last year, on a Guggenheim Fellowship), to discuss the book. He lent Malcolm a copy of the typescript with the idea that they should read it through together, paragraph by paragraph. The procedure, as Malcolm recalls it, was this:

> Starting at the beginning of the work, Wittgenstein first read a sentence aloud in German, then translated it into English, then made some remarks to me about the meaning of it. He then went on to the next sentence; and so on. At the following meeting he started at the place where we had last stopped.

'The reason I am doing this', Wittgenstein explained, 'is so there will be at least one person who will understand my book when it is published.' This is slightly odd, in the sense that he had at this time no intention of publishing this typescript, and was already working on a reformulation of its final section. Contemporaneous with his discussions with Malcolm is a series of manuscript volumes from which he hoped to produce a more satisfactory presentation of his investigations into psychological concepts. Not that any time was wasted, for the style of their meetings had changed before they reached the last section of the book. Wittgenstein's form of 'discussion' proved to be too rigidly exegetical for Malcolm's taste; he wanted to discuss philosophical problems that were currently puzzling *him*. And so Wittgenstein gradually relaxed the procedure.

During the Michaelmas term of 1946, Wittgenstein's love for Ben Richards provided him with moments of happiness and prolonged periods of torment. 'All is happiness', he wrote on 8 October. 'I could not write like this now if I had not spent the last 2 weeks with B. And I

could not have spent them as I did if illness or some accident had intervened.'

But the happiness was fragile – or, at least, he felt it to be so. 'In love I have too little *faith* and too little *courage*', he wrote on 22 October:

> But I am easily hurt and afraid of being hurt, and to protect oneself in *this* way is the death of all love. For real love one needs *courage*. But this means one must also have the courage to make the break and renounce [one's love], in other words to endure a mortal wound. But I can only hope to be spared the worst.

'I do not have the courage or the strength and clarity to look the facts of my life straight in the face', he wrote a few days later. One of these facts, he thought, was that: 'B. has for me a *pre*-love [in German there is a pun here: *Vorliebe* means a liking, a preference], something that can not last':

> How it will fade I don't know of course. Nor do I know how some part of it might be preserved, alive, not pressed between the leaves of a book as a memento.

He felt sure that he would lose Ben, and that conviction made it painful to carry on in the affair. It presented a 'frightful difficulty of my life': 'I do not know whether and how I can bear to continue *this* relationship with *this* prospect.'

Neither, however, could he bear the thought of ending the relationship: 'Whenever I imagine myself having made the break, the loneliness terrifies me.' And in any case, was it not a great and wonderful gift from the heavens, which it would be almost blasphemous to throw away? The pain and suffering of either continuing or ending the affair seemed more than he could possibly endure.

But, he insisted the following day: 'love is a *joy*. Perhaps a joy mixed with pain, but a joy nevertheless.' And if it wasn't a joy, then it wasn't love. 'In love I have to be able to rest secure.' As it was, his doubts would give him no rest. That Ben was warm-hearted, he did not doubt. 'But can you reject a warm heart?' The question immediately prompted the central doubt: 'is it a heart that beats warmly for *me*?' He quotes in English (and, therefore, presumably from Ben) the saying: 'I'll rather do anything than to hurt the soul of friendship', and

continues in English (but this time surely in his own words): 'I must know: he won't hurt *our friendship*.' Having fallen for Ben, he demanded, not just friendship, not just fondness, but love:

> A person cannot come out of his skin. I cannot give up a demand that is anchored deep inside me, in my whole life. For *love* is bound up with nature; and if I became unnatural, the love would have to end. – Can I say: 'I will be reasonable and no longer demand it?' . . . I can say: Let him do as he pleases, – it will be different some day – *Love*, that is the pearl of great price that one holds to one's heart, that one would exchange for *nothing*, that one prizes above all else.* In fact it *shows* – if one has it – what great value *is*. One learns what it *means* to single out a precious metal from all others.

'The frightening thing is the uncertainty.' And in this uncertainty Wittgenstein's imagination tormented him with all manner of frightful possibilities. 'Trust in God', he told himself. But the whole point was that he was unable to trust in anything:

> From where I am to a trust in God is a *long* way. Joyous hope and fear are close cousins. I can't have the one without its bordering on the other.

And there was, too, a doubt as to whether he had any right to fall in love. In doing so, was he not being unfaithful to the memory of Francis? 'Ask yourself this question', he wrote on 10 November:

> . . . when you die who will mourn for you; and *how deep* will their mourning be? Who mourns for F., how deeply do I – who have more reason to mourn than anyone – mourn for him? Did he not deserve that someone should mourn him their whole life long? If anyone did, it was he.

Francis, however, was in God's hands: 'Here one would like to say: God will take care of him and give him what a bad person denies him.'

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* A reference to Matthew 13:45–6: 'the Kingdom of heaven is like unto a merchant man, seeking goodly pearls, who, when he had found one pearl of great price went and sold all that he had, and bought it.' I'm grateful to Dr David McLintock for drawing my attention to this allusion.

His own life, though, was entirely in his own hands. An isolated phrase two days later simply notes: 'The fundamental insecurity of life.' The foundations might at any moment give way. 'Don't be too cowardly to put a person's friendship to the test', he urged. He had to know whether his relationship with Ben would stand up to the pressure put upon it: 'The walking-stick that looks pretty so long as one carries it, but bends as soon as you rest your weight upon it, is worth nothing.'

Better, surely, to walk without a stick than use one that could not be relied upon:

> Can you not be cheerful even without his love? Do you *have* to sink into despondency without this love? Can you not live without this prop? For that is the question: can you *not* walk upright without leaning on this staff? Or is it only that you cannot *resolve* to give it up. Or is it both? – You *mustn't* go on expecting letters that don't arrive.

In so far as it was used as a prop, the relationship was not worthy: 'It is not love that draws me to this prop, but the fact that I cannot stand securely on my own two feet alone.'

Without Ben, certainly, his life would be more lonely and miserable. But why not suffer? After all: 'Some men are ill their whole lives and the only happiness they know is that which comes from a few painless hours following a long period of intense suffering (a blessed sigh of relief)':

> Is it so unheard of for a person to suffer, e.g., that an elderly person is tired and lonely – yes even, that he becomes half-crazy?

Exhaustion, loneliness, madness – these were his lot, and he had to accept them: 'Only nothing theatrical. Of that you must guard against.'

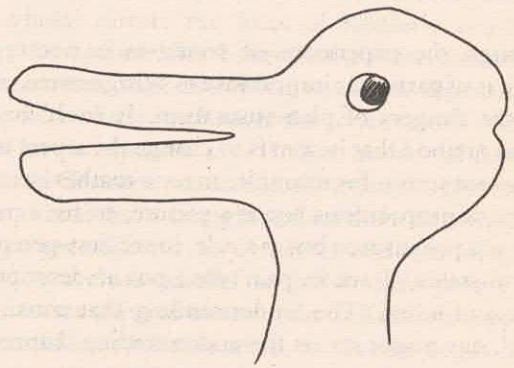
The hardest feat was to love with hope, and not to despair if those hopes were not fulfilled: 'The belief in a benevolent father is actually the expression of just this life.'

To live like that would be a real solution, an achievement against which his philosophical work would pale into insignificance: 'What good does all my talent do me, if, at heart, I am unhappy? What help is it to me to solve philosophical problems, if I cannot settle the chief, most important thing?' And what real use were his lectures?

> My lectures are going well, they will never go better. But what effect do they leave behind? Am I helping anyone? Certainly no *more* than if I were a great actor playing out tragic roles for them. What they learn is not worth learning; and the personal impression I make does not serve them with anything. That's true for all of them, with, perhaps, one or two exceptions.

During the summer term of 1947 Wittgenstein resolved to give up lecturing. He told Georg von Wright that he would resign his professorship, and that, when he did, he would like to see von Wright as his successor.

The lectures that Wittgenstein gave in his last term are of particular interest, because they introduce the issues that were to preoccupy him for the next two years, and which found their final expression in the typescript that now forms Part II of *Philosophical Investigations*. It was in these lectures that he first introduced the famous ambiguous figure of the duck–rabbit:



> Suppose I show it to a child. It says 'It's a duck' and then suddenly 'Oh, it's a rabbit.' So it recognises it as a rabbit. – This is an experience of recognition. So if you see me in the street and say 'Ah, Wittgenstein.' But you haven't an experience of recognition all the time. – The experience only comes at the moment of change from

duck to rabbit and back. In between, the aspect is as it were dispositional.

The point about the figure is that it can be seen under more than one aspect: the same drawing can be seen as a duck and as a rabbit. And it is this phenomenon of *seeing-as* that interested Wittgenstein. In describing this sort of phenomenon, there is a great temptation to talk of psychological states as if they were objects of some kind. For example, we might say that when we see it now as a duck, now as a rabbit, the external figure – the drawing – has not changed; what has changed is our internal picture – our sense-datum. And if this idea were generalized, it would lead to the very theory of sensory experience that is the target of Wittgenstein's philosophy of psychology – the phenomenalist notion that the objects of our immediate experience are the private, shadowy entities that empiricists call sense-data. It is for fear of this kind of generalization that one of the first points Wittgenstein makes about aspect-seeing – in the lecture quoted above and in the *Investigations* – is that it is not typical; we do not see everything as something:

> It would have made as little sense for me to say 'Now I am seeing it as . . .' as to say at the sight of a knife and fork 'Now I am seeing this as a knife and fork.'

But although the experience of seeing-as is not typical of all perception, it is of particular importance to Wittgenstein, and not only because of the dangers of phenomenalism. It could be said of his philosophical method that its aim is to change the aspect under which certain things are seen – for example, to see a mathematical proof not as a sequence of propositions but as a picture, to see a mathematical formula not as a proposition but as a rule, to see first-person reports of psychological states ('I am in pain' etc.) not as descriptions but as expressions, and so on. The 'understanding that consists in seeing connections', one might say, is the understanding that results from a change of aspect.

As he acknowledges in the *Investigations*, Wittgenstein took the duck–rabbit figure from Joseph Jastrow's *Fact and Fable in Psychology* (1900), but his discussion of aspect-seeing owes far more to Wolfgang Köhler than it does to Jastrow. It is Köhler's *Gestalt Psychology* (1929), and especially the chapter on 'Sensory Organization', that Wittgenstein has in mind in much of his discussion. Many of the lectures began with Wittgenstein reading a short passage from the book.

To understand Wittgenstein's interest in Köhler, we have, I think, to understand their common inheritance from Goethe. For both Köhler and Wittgenstein the word '*Gestalt*' had connotations of a way of understanding that had its origins in Goethe's morphological studies (of colour, plants and animals). And both, in very different ways, used this Goethean conception as a central plank in their thinking.

The German word '*Gestalt*' usually means 'shape' or 'form'. Köhler, however, following Goethe, used it to mean something quite different:

> In the German language – at least since the time of Goethe, and especially in his own papers on natural science – the noun 'gestalt' has two meanings: besides the connotation of 'shape' or 'form' as a property of things, it has the meaning of a concrete individual and characteristic entity, existing as something detached and having a shape or form as one of its attributes. Following this tradition, in gestalttheorie the word 'gestalt' means any segregated whole.

This notion of a 'segregated whole', or, as Köhler often puts it, an 'organized whole', forms the basis of Köhler's anti-behaviourist psychology. As against the behaviourist's mechanical model of stimulus-response, Köhler uses what he calls a 'dynamic' model of human behaviour which emphasizes the active role of organization in perception. Our perceptions, says Köhler, are not of discrete stimuli but of organized *Gestalten*: we do not, for example, see three dots on a page; we form them into a triangle and see them as a whole, a *Gestalt*.

Köhler's programme for a 'dynamic' understanding of human psychology has a close parallel with Goethe's programme for a 'dynamic' understanding of nature. Just as Köhler is opposed to the mechanism implicit in behaviourism, so Goethe began his scientific studies in response to a desire to see an alternative to the mechanistic Newtonian science of his day.

Goethe's first venture in the morphological understanding of natural forms was his study of plants. His idea – developed on his 'Italian Journey' – was that plant-life could be studied systematically (but non-mechanically) if all plants could be seen under the aspect of a