



Fools Crow

Fools Crow and a Phenomenology of the Value of Nature

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In my view, and those of its founding members, the environmental movement has the potential to be of watershed importance in the intellectual history of the West, by re-orienting our relation to nature, helping us to overcome the alienation of modernity, and in inspiring us to find new ways of reintegrating ourselves with a natural world that is full of a rediscovered goodness. In other words, I believe environmentalism has a great deal to teach philosophy about the meaning and value of nature. In ontology, it challenges the nominalism of modernity, for by valuing the preservation of species it teaches us the value not only of individuals, but of kinds or essences. Further, it challenges the substance metaphysics of modernity, for by valuing ecosystems it teaches us to value lived historical relationships. Most importantly, in questions of axiology, these reorientations emerge from powerful experiences of the natural world that suggest beavers and butterflies, crab apples and cedar trees, mountains, rivers, and ecosystems are not inert collections of matter that have value, and therefore moral standing, only if human beings project their values onto them. Rather they have a value and a beauty of their own, to which we respond—thus challenging the ethical anthropocentrism of modernity.

These ideas were a radical challenge to the mechanistic view of nature of the dominant Cartesian-Kantian modernity, and when these ideas came to academic philosophy in the 1970s it

created quite a heady atmosphere. There was of course sadness at seeing our rivers polluted and habitat destroyed and from the beginning these philosophers were called to be activists as well as theorists; environmental philosophy was always already environmental ethics. But there was also joy and great purpose in finding ourselves in a world that was a home, threatened as that home was, and in the vocation of trying to give a philosophical account of the value they found in nature.



While

there was a long incubation, this explosion of interest among philosophers in the intrinsic value of nature happened very quickly. Between 1971 and 1975, J. Baird Callicott taught the first course in environmental ethics; John Cobb wrote the first monograph on environmental ethics; Arne Næss published his book on “Deep ecology” explicitly defending the philosophical claim about the intrinsic value of nature; Françoise d’Eaubonne coined the term “eco-feminism” linking the flourishing of women with the flourishing of nature; and Holmes Rolston III published a book on the intrinsic value of species.

There was a parallel, and indeed slightly preceding, explosion in the general public’s interest in nature, particularly with regard to political and legal issues. In 1962 Rachel Carson had published *Silent Spring*. In 1968, the Apollo VIII mission took the famous color picture of earthrise over the moon capturing the beauty and fragility of life as seen from space, which was followed in 1972 by the even more famous “Blue Marble” shot of earth taken by Apollo 17. In 1970, Republican President Richard Nixon hearkened back to Teddy Roosevelt and declared the 1970s, “the decade of the environment” and created the EPA; in 1973 he signed the Endangered Species Act. In 1980 the *Global 2000* report commissioned by Jimmy Carter urged protection of the intrinsic value of nature and this was followed more forcefully in 1982 by the United Nations *World Charter for Nature*.

There were of course a few dissenters, such as John Passmore and others, but from the late 1960s and throughout the 70s it seemed as if the energy and enthusiasm behind the environmental movement, as manifest both among academics and the culture at large, would lead to a radical overturning of the atomistic ontology and anthropocentric axiology of Modern Philosophy. However, this was short-lived. The 1980s and 90s saw a continued erosion of the idea that environmental ethics would lead us to a re-evaluation of our relation with nature, one that would help us to see its intrinsic value. Instead, by 1987 the United Nations’ Brundtland Report, *Our Common Future* (WCED), had switched from the language of deep ecology or the intrinsic value of living beings, species, and ecosystems to the harsh language of the sustainability of resources as the philosophical reason, the value justifying, ecological preservation. By 1992 the documents produced



by “Earth Summit” in Rio de Janeiro take a decidedly “sustainable development” approach, making the conservation of resources the highest priority in environmental ethics.

There are many reasons for this change, and they are often inter-related. One reason is the resurgence of traditional liberalism in the Thatcher/ Reagan counter-revolution, by way of which the ideological supports of capitalism were able to reassert dominance over the emerging environmental thinking, a reassertion that was only intensified with the triumphalism that followed the fall of the Soviet Union and the sense that all remaining competitors had been vanquished. Another reason, that I have written about elsewhere,¹ is overwhelming existential despair that arises from the growing sense that the problem of anthropogenic global warming dwarfs the diverse local issues of river pollution, habitat preservation, etc, coupled with the perception that liberal economic systems are impotent to stop the increase in carbon emissions. In the face of this environmental/economic crisis the diversity of views about what type of metaphysics might make sense of the environmentalists’ experience of the intrinsic value of nature came to be seen as a terrible liability. In times of confidence the fact that some philosophers wanted to turn to Spinoza, others to a process philosophy like Whitehead’s, others to Eastern religions like Hinduism, others to sacramental versions of Christianity, and yet others to pantheism or paganism, might have been seen as the manifestation of a healthy, even productive, pluralism. In the face of this despair it seemed like failure.

Whatever the exact role and interrelations between these causes, it is clearly the case that the original promise that environmental ethics would renew our philosophy and give us a new relation to nature, understood as rich with value, has faltered. Within the field of environmental philosophy this has resulted in an influential movement called “Environmental Pragmatism” championed by Eric Katz, Andrew Light, and Bryan Norton, among others. These thinkers argue that we should not be asking the question of the value of nature, which only makes us bicker with each other and wastes our time, when we should be putting our efforts towards policy changes that protect the environment and do not need theoretical foundations to be validated.

Norton starts his essay “Integration or Reduction: Two approaches to environmental values” in the 1996 collection *Environmental Pragmatism* by saying, “Environmental ethics has been dominated in its first twenty years by questions of axiology”², which is exactly why, in my view and that of most early environmental philosophers, the movement is so important. Norton, on the other hand, claims that the preoccupation with axiology is why “an assessment of the contribution of environmental ethics to environmental policy in its first two decades is accordingly bleak.”³

This wrong-headed attempt to give a philosophical account of the value of nature as a guide to showing us why we should preserve nature and what we should prioritize, Norton calls “applied philosophy,” and he contrasts it with his recommendation to turn to “practical philosophy.” As he explains,

‘Practical philosophy’, as I am defining it here in contrast to ‘applied philosophy,’ is more problem- oriented; its chief characteristic is an emphasis on theories as tools of the understanding, tools that are developed to resolve specific policy controversies.... Practical philosophy does not assume that useful theoretical principles will be developed and established independent of the policy process and then applied within that process. Practice is prior to theory in the sense that principles are ultimately generated from practice, not vice versa... If all disputants agree on central management principles, even without agreeing on ultimate values, management can proceed on these principles.⁴

I share many of Norton’s concerns. We do not need to agree on the metaphysical ground of the value of nature before we can co-operate on environmental activism. I also agree that this activism is at the heart of the project. A true environmental philosophy is always an environmental ethics, which in fact is one of the things environmentalism teaches us about the nature of philosophy in general and that aligns it with Marx’s famous criticism: “*philosophers* have *hitherto* only interpreted the world in various ways; the point is to change it.”⁵ However, in accepting this dictum, we need not give up on questions of axiology that make environmentalism of such importance to the



broader discipline of philosophy. In fact questions of value cannot be separated from activism.

First, we do not need to accept Socrates' moral intellectualism fully in order to agree with the scathing critiques he made of a moral dogmatism that accepts as right what "all the best people" in society agree is right. If Euthyphro has no right to prosecute his father for impiety without first having given careful attention to the nature of impiety, we have no right to impose strict carbon emissions limits on people who do not want them, put coal miners out of work, etc—and I think we all agree that we must do this to save our planet—if we have not given careful attention to what environmental justice is. Further, the deeper ground that prepared for the explosion of environmental ethics in the 1960s and 70s is to be found with people like Aldo Leopold who *changed* their view on management principles in response to changes in the way they came to see the ultimate value of nature.

Leopold's account of this transformation, in a short section of *The Sand County Almanac* called "Thinking Like a Mountain," has become a classic text that is reproduced in almost every Introduction to Environmental Philosophy textbook and is justifiably considered one of the foundational works of the environmental movement. In this short account, Leopold describes an experience that radically reorients him towards nature. Leopold was a forest manager and tells us that one day he was having lunch out on a high ridge with some fellow Forest Service workers when they saw a Mother wolf with her nearly grown pups. "In those days" he says "we never heard of passing

up a chance to kill a wolf," and so they quickly shoot down into the valley below and descend to see if they were successful. Leopold continues:

we reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that *there was something new to me* in the eyes— something only known to her *and the mountain*. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that



no wolves would mean hunters'
paradise. But after seeing the green fire die,
I sensed that neither the wolf nor the mountain agreed with such a view.⁶

Unlike the way we might expect this story to be told from our Kantian background, Leopold does not come to see that what he had thought was just a machine with only instrumental value was actually a self-conscious being that owns its own dignity. Rather, he came to see something that was good apart from any instrumental value, but also as a part of something good beyond itself, which he associates with the epic view of the mountain, for he goes on to explain how the wolves keep the deer population in check, which allows the vegetation and the forested sides of the mountain to thrive—a harmony that we have not been able to achieve by trying to run too many cattle on land that cannot support it. We have not learned to think like a mountain.

These accounts of a *change* in one's deep understandings about value, particularly in response to the distress experienced in the face of threats to the natural world, reveal the revolutionary power of environmentalism in its challenge to Modern philosophy. Other famous examples at the heart of the environmental movement come from John Muir's distress over the threat to the Yosemite area from sheep grazing and eventually the damning of the Hetchy Hetchy River and Rachel Carsons's distress over the death of birds and other wildlife from DDT. It is significant that these early pioneers are foresters, wildlife biologists, and adventurers rather than academic philosophers, but in order for their experiences of the value of

nature to speak to philosophical thinking, it will help to give a philosophical account that gives legitimacy to the *experience* of value, an account that is compellingly provided by Husserlian phenomenology. In other words, if the environmental movement has much to teach philosophy, as I claim it does, the academic study of philosophy, and in particular phenomenology, has much to teach the environmental movement, particularly in the internecine conflict over the importance of axiology.



By understanding *The Crisis of the European Sciences* as an important entry point into Husserl's thinking, we can see that phenomenology is as dominated by existential questions of value as the early environmental movement.⁷ But what we need more immediately to address the challenge of environmental pragmatism is the epistemology of phenomenology. Norton sees only two processes at work in knowing: abstract theoretical reason and practical, problem oriented reason. Phenomenology teaches us that both *praxis* and *episteme* are mediated by lived experience, in which intelligibility is always already embedded. The phenomenological reduction continually asks us to return to examine the ways that our theoretical beliefs emerge out of the way reality gives itself to us in experience—or fail to do so and thus must be corrected. All our concrete engagements with the world, including our pursuit of social and environmental justice, give us new experiences, new encounters with the world, that should always become further opportunities for phenomenological reflection about our understanding of the essential nature of reality—which in turn guide us toward new engagements with the world.

For phenomenologists, this *epoche* is a careful philosophical practice, but there are experiences in life that allow certain aspects of the reduction to occur without that methodological training. In the *Phaedrus*, Plato shows how falling in love suspends and calls into question all the things that had once constituted a person's deepest values; the lover he says, "forgets mothers and brother and friends entirely and doesn't care at all if it loses its wealth through neglect. And as for proper and decorous behavior, in which the soul used to take so much pride, it despises the whole business,"⁸ thus allowing a vivid encounter with the goodness and the beauty of the lover made possible by the bracketing of our previous theoretical and cultural preconceptions. For the early, and I hope continuing, environmentalists, personal experiences of nature, particularly when the natural world is endangered and its contingency and therefore fragile goodness comes to the fore, can also act like an *epoche*, suspending our previous beliefs and asking us to look carefully at the rupture between our theoretical understanding of nature and the way it reveals itself to us. This rupture with our previous beliefs allows the prejudices of modernity, which assign an axiological nullity to the non-rational or non-conscious world, to be bracketed and, in turn, allow the natural world



to reveal itself as intrinsically valuable and even sacred.⁹

This rapprochement between phenomenology and the environmental movement, sometimes called “eco-phenomenology” is a rich one that has already begun to produce some significant research.¹⁰ However, to a large extent this potential has been neglected. This is due to the fact that from the 1970s, phenomenology, under the influence of post- structuralism, has largely moved away from an attempt to give an account of the kinds of beings there are in the world and the ways they reveal themselves towards what

Dan Zahavi calls “a phenomenology of the invisible,”¹¹ in which what comes to presence in appearance is treated with suspicion. There are good reasons for this; most importantly, classical phenomenology did not deal very well with the appearances that are illusions resulting from deep and systematic distortions of experience and hidden

structures of power. Levinas,

Derrida, and other post-structuralists show us how the things we experience are often products of the imperialism of the ego and the prejudices of one’s language and culture. In this tradition illusion is dealt with by deconstructing the objects that these structures create. The metaphors of Abrahamic religion have been

powerful in this regard. The objects of experience are “idols”, created by human will to reflect human desires, that

lock the ego into a prison of its own immanence. This means that a radicalized phenomenology will require a shattering of those idols so that the self can be open to transcendence, for something outside the loneliness of its own self-absorbed

creation. In this way, phenomenology

has moved towards a preoccupation

with the invisible, the radical other that does not come to appearance. For

Levinas, Derrida, and their followers, phenomenology still provides an

orientation toward the sacred, but at the risk of an illusory idolatry, the

sacred other can never appear. Thus, and characteristically for deconstruction,

by way of Derrida’s claim that *tout autre*

est tout autre,¹² the sacred becomes

indistinguishable from the alterity of the stranger, and otherness becomes the only criterion of value.

Thus the worry about illusion, which is a very legitimate one, has tended towards an iconoclasm very much at odds with an environmental philosophy which wants to experience sensuous nature as valuable, that which we



can not only see and hear, but feel and smell and taste. Thus the mainstream phenomenological legacy, marked as it is by post-structuralism, deconstruction, and a hermeneutics of suspicion, has taken its cue from the most iconoclastic forms of the Abrahamic religions and Buddhism and has not been able to deal with pantheism, paganism, or sacramental versions of monotheism—or been much help to environmental philosophy.

I would like to suggest that this over-emphasis on the invisible and iconoclastic can be corrected by seeing that the tradition has been focused exclusively on overcoming illusion by dismantling the idolatrous nature of the object. In Husserl's language, the emphasis is on deconstructing the *noema* in order to encounter a sacred other 'behind' it that never comes to appearance. The *noesis*, the cultural, linguistic, and personal acts of consciousness are understood to be what causes the illusion. But they cannot be improved or purified; all we can do is to set the noema free from their corrupting power. Self-abnegation comes in letting go of my desire for the object as it appears, and the payoff is a relation with a sacred other beyond objectivity that never comes to appearance. Both the rigor and the meaning all lie on the side of the noema.

The tradition of the Lakota Holy Men and Women, and in particular Fools Crow, offers an important starting place for an alternative method for dealing with illusion, one that does not end stuck in a preoccupation with the nothingness of a pure alterity. Fools Crow was a spiritual leader and healer who was born in 1890 and yet still raised in many of the traditional ways of the Lakota. In explaining how he is able to heal, Fools Crow returns often to the metaphor of a "hollow bone." He says that this helps to describe the way that he must work hard to empty himself of his own thoughts and desires so that the spiritual powers may flow in and through him to help the person who is sick. This offers an alternative to deconstruction, for it integrates the experience of the sacred into the acts of intentionality. For Fools Crow the things we encounter in nature—trees, grass, animals, other people, stones, and stars—are experienced as sacred, imbued with the spirit of *Wakan Tanka*,¹³ but so are the ways of being open to them, when we can become like a hollow bone and experience the spirit of *Wakan Tanka* as our way of being open to reality, as imbuing our noeses themselves with sacredness.



In the tradition of phenomenology we have tended to focus on the self as a natural ecstatic opening toward the world, and we desire to encounter the other as sacred—the work of art, the stranger, the orphan, etc. Fools Crow teaches us that we will never experience the sacred other until we allow the sacred to work in the noesis, or moment of intentionality by which we are oriented towards the world. Fools Crow finds *Wakan Tanka*, not first in the thing, but first in flowing through himself and thus in a changed orientation toward reality.

It is the interweaving of the physical and the spiritual, nature and grace, the ability to see the world as sacred and as a home, that is, I think the promise that draws so many Europeans and Euro-Americans to Native American religious traditions. As Fools Crow says, “in the old days my people did not separate daily life in the world from spiritual life. Everything was spiritual. We were soaked with it... our attitude was spiritual, and *Wakan Tanka* and his Helpers were involved in everything we thought and did. This is the way it has continued to be with me and in the lives of other traditional people.”¹⁴

Note, here, that Fools Crow interweaves language of the spiritual presence of *Wakan Tanka* in things he encounters with its spiritual presence in his thoughts and actions—orientation towards those things. It is the first, a renewed appreciation of the sacredness of the world and the things in it that draws western seekers suffering the alienation of Cartesian solipsism and Kantian phenomenalism, but only with the latter, by thinking about a re-orientation of our intentional opening to reality can we understand Fools Crow’s project.

Fools Crow makes a careful distinction between natural power and spiritual power. As he explains:

“apart from when it is being used in a ceremony, spiritual power is not in a person or in a ritual item so that we can say we



are powerful or that a ritual or ritual item has power. We can never
heal a patient and say, 'I did that,
and you can thank me for it.' It is
the Higher Powers and their Helpers who do this in and through us. We are helpers, too, but
only as hollow
bones they work through. Most
people think that to do and build great things is
what really counts. But the greatest
and only lasting
privilege we have is that in spite of some of the
things we think, say, and do the
Powers and their Helpers are still willing to work through us."15

This teaching is clearly related to the recognition of
the importance of humility and openness to the transforming power of grace that
marks the post-modern tradition in a line running through Marion, Caputo,
Derrida, and Levinas back to Kierkegaard, Luther, and Augustine. As Fools Crow explains
later, "With *Wakan Tanka*, everything is possible. Without Him, it
is not. Human nature, with its natural power and without the added spiritual
power that surrounds us, is such that people
do not do what is for their own best
good."16

Clearly this is not some "primitive" or naïve
"pre-critical" affirmation of the world as it is experienced. The self must
work hard to open itself to a moment of alterity. As Fools Crow explains, in
the first step "I think about all the stumbling blocks about me that can get in
Wakan-Tanka's and the Helper's way when I want them to work in and through me.
Then I ask them to remove these things so that I am a clean bone."17 Again he tells us, "the
cleanest bones serve *Wakan Tanka* and Helpers the best, and
the medicine and holy people work the hardest to become clean. The cleaner the
bone, the more water you can pour through it and the faster it will run. It is
this way with us and power, and the holy person is the one who becomes the
cleanest of all."18

The affinities with deconstruction and the worries about
illusion that motivate the hermeneutics of suspicion should be clear. Fools
Crow is acutely aware of the danger of illusion. What is of such importance for
a contemporary phenomenology that could be of service to an environmental
ethics, is that he provides a disciplining of subjectivity in the service of

openness to the other that motivates the poststructuralist/ deconstructionist turn away from Heidegger but without banishing the sacred to a realm of radical transcendence beyond phenomenality and thus beyond nature. Thus, Fools Crow's thinking remains deeply congruous with Husserl's, in a way that post-structuralism and hermeneutics of suspicion cannot, for in the end, the intentional act and the intentional object become deeply intertwined through the spiritual life, such that the sacralized intentionality does indeed open onto a sacralized world.

We must be resolute in holding onto the ontological priority of the encounter with the sacred in a re-orientation of our acts of intentionality. The holy men and women of old, says Fools Crow,

“learned who their helpers would be, what *Wakan Tanka* wanted them to do, and how He would help them do it. They also learned, and perhaps this was the most important thing, how to look at things through the eyes of the Higher Powers. ‘Why do you think the medicine people’s dreams have been more powerful than those of other people?’ [asks Mails] ‘As I have already told you but will say again [responds Fools Crow], they have been individuals whose natures and way of life opened them fully to *Wakan Tanka* and the Helpers... when we serve as bones for *Wakan Tanka* and the Helpers, we learn to see things in a new and magical light, to look at people and situations in different ways. Visioning is learning to let the Powers show you things through their eyes.”¹⁹

But in the end this does, indeed, yield an encounter with a world that is full of goodness and meaning and could be the basis for a renewed relation to nature, as the western seekers had hoped. As Fools Crow continues, “*Wakan Tanka* and the Helpers cast spiritual light onto things so that I can see them for what they really are,”²⁰ and the results are dramatic; “sometimes I cry because of the great beauty of it all. Ordinary things become extraordinary. What is nothing to someone else becomes marvelous to me.”²¹ The hope is, of course, that *by including a critique of illusion*, this can then become the phenomenological grounding of an environmental ethics. We must save the wolves and the Hetchy-Hetchy valley



and Peone Prairie because they are beautiful, extraordinary, marvelous— worthy apart from their value for humans. A philosophical account of what gives them their value takes us beyond phenomenology and into metaphysical debates. Those are worth having, but a phenomenological description of this value is a good place to start.

My appeal in this article to a renewed phenomenology that, inspired by the Lakota tradition, finds a way to avoid being captured by a pre-occupation with the invisible and can thus become the basis for an axiology of nature that defends the claims of environmental philosophy about the intrinsic value of the more-than-human world, is only a prolegomena or perhaps just an evocative invitation. A great deal of work will have to be done to show that the reorientation of the problem of illusion suggested by the work of Fools Crow and his Lakota tradition can indeed overcome the worries about idolatry and the distortion of experience that motivates the heirs to the phenomenological tradition. However, for a phenomenologist inspired by the kinds of experiences of nature that moved John Muir and Aldo Leopold, the work ought to look promising. For by shifting some of the rigor that would suppress the things of experience towards the acts of consciousness by which they are revealed, perhaps we can achieve a disciplining of experience rigorous enough to overcome illusion without letting things go towards invisibility altogether. Then the original axiological promise in Husserl will, indeed, be able to provide a philosophical account that will help defend the claim that experiences of the goodness and beauty of nature ought to play a foundational role in environmental philosophy, thus allowing the movement to fulfill its potential both to inspire us to political and ethical action that will preserve nature, but also to challenge the metaphysical assumptions of modernity thus renewing contemporary philosophy.

Endnotes

1. Please see my chapter, “The Ethics of Sustainability, Instrumental Reason, and the Goodness of Nature,” in Róisín Lally, Ed., *Sustainable Technologies in the Age of the Anthropocene*. Lexington Books, 2019.
2. Norton, pg. 105.
3. Norton, pg. 106.



4. Norton, pg. 108.
5. Marx, *Theses on Feuerbach*.
6. Leopold, *Sand County Almanac*, Oxford: Oxford University Press, pg. 130. [my emphasis].
7. I also develop this idea more fully in my chapter “The Ethics of Sustainability, Instrumental Reason, and the Goodness of Nature,” in Róisín Lally, Ed., *Sustainable Technologies in the Age of the Anthropocene*. Lexington Books, 2019.
8. Plato, *Phaedrus*, 252a.
9. By sacred I mean that not only are things good in themselves, but that they also manifest something good beyond themselves that gives rise to them or that is their ground (or is their groundless ground). This act of giving that is revealed by sacred things could be the god of a philosophical theology such as a theistic reading of Plato’s Good beyond Being or Aristotle’s Unmoved Mover; it could even be the God of revealed theology, such as the personal Gods “Yaweh,” “Allah,” or “Christ.” But the sacred can also involve a non- theistic interpretation, such as “Being” in Heidegger, “Nature” in Merleau- Ponty, Gadamer’s non-theistic reading of Plato’s “Good beyond Being” etc. So a phenomenology of the sacred does not commit us to God, but it gives us a method to solve many of the problems in environmental philosophy and helps unite theory and policy in an experience of a nature that is good and indeed part of a process of coming into being that is also good.
10. See for example, Bryan Bannon, Ed., *Nature and Experience: Phenomenology and the Environment*, Roman and Littlefield, 2016; Ted Toadvine, “Phenomenology and Environmental Ethics” in *The Oxford Handbook of Environmental Ethics*, 2017; Iain Thompson, “Environmental Philosophy” in *A Companion to Phenomenology and Existentialism*, Wiley, 2007;
11. Zahavi, “Phenomenology of the Invisible,” *Continental Philosophy Review*, No. 32, 1999. Pg. 223-240.
12. “Every other is wholly other”;
13. *Wakan Tanka* is a Lakota word sometimes translated as “Great Spirit.” *Wakan* seems to mean primarily “holy or sacred,” and by extension “great,” and *Tanka* means “powers or mystery or spirit.” Any translation necessarily plunges us into complicated debates about Lakota theology and ways it has been influenced by Christianity that exceed the scope of a short discussion. Thus, I think sensibly, many English speakers leave *Wakan Tanka* untranslated.
14. Pg. 50.
15. P. 50.
16. 67.
17. P. 35.
18. P. 36
19. P. 75-76
20. P. 77
21. P. 77.