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Nāgārjuna's logic*

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Some years ago CLAUS OETKE published several articles¹ dealing with the arguments and teaching of Nāgārjuna's Mūlamadhyamakakārikās (MMK) and Vīgrahavyāvartanī (VV). In these articles he corrected a number of mistaken notions that existed in connection with these texts, and analysed their most important arguments. He dedicated a whole article to one type of argument, which recurs frequently in Nāgārjuna's work.² This article, the problem it studies and the solution it offers, is the subject of this paper. The type of argument concerned has the following structure: There can be no entities of a certain kind F that are G, and there can be no entities of the same kind F that are not-G. An argument of this type can only lead to the conclusion that there cannot be any entity of the kind F, provided, of course, that the premises are correct. It is here, however, that the difficulties begin.

Let us consider an example. It occurs in the first verse of chapter 21 of the MMK, where it is stated that there is no destruction without or together with production, and that there is also no production either without or together with destruction. OETKE draws in this connection attention to what he calls the "temporal-atemporal ambiguity" — there is no destruction while there is production, but there certainly is destruction later on — and observes: "the fallacious character of the argument, if based on the 'temporal-atemporal ambiguity', is so obvious that it seems quite improbable that the author of the MMK should not have noticed it". Indeed, saying that there is no destruction without production means that there is no destruction that has not been preceded by production; the statement that there is not destruction together with production, on the other hand, means that the two do not occur simultaneously. OETKE then concludes: "we must either assume that Nāgārjuna being well aware of the unconvincingness of his reasoning intended for some reason to present such an argument here or assume that his argument was subject to tacit presuppositions which either strengthened the force of the reasoning or made the aim of the proof weaker than it appears to be". The [30] second of these two assumptions appears to be the more reasonable one. The question is therefore: which are Nāgārjuna's tacit presuppositions?

* This article is the somewhat belated outcome of a seminar on Nāgārjuna organised by Prof. T. E. VETTER at Leiden University in 1979/1980. See in this connection VETTER, 1982; 1982a.

¹ See the bibliography at the end of this article.

² OETKE, 1990. See further OETKE, 1988: 53_f.; 1989: 10_f.; 1991: 320; 1992: 208 Anm._21.

Tacit assumptions may be required to understand chapter 19 of the MMK, too. OETKE describes the situation as follows: "In chapter XIX Nāgārjuna reasons to the effect that time does not exist by arguing that present and future are not independent of the past but also not dependent because if present and future were depending on the past they would exist in the past, a consequence that is obviously regarded as unacceptable. Similar consequences exist regarding the dependence of past and present on future and past and future on present." OETKE then comments: "Here the reasoning seems *prima facie* absurd. ... It seems hardly conceivable that Nāgārjuna should have clung both to the thesis of the dependence between the time epochs and to the assumption concerning the entailment between dependence and coexistence without special reasons." Again the question presents itself: what were Nāgārjuna's special reasons?

It is not possible to reproduce OETKE's further analyses of the problems at hand in complete detail here. Let it be sufficient to note that he addresses the problems with admirable skill and thoroughness. In the end he solves them with what he calls the "hypothesis of the merger of condition-types". Nāgārjuna is credited with the following general theorem:

For all x and for all y: If x is the condition of y / If x is the condition of the existence of y, then y must be something that exists during the existence of x (or: that does not exist exclusively later than x).

OETKE calls this theorem P5; I will refer to it as "OETKE's theorem".

Applied to Nāgārjuna's proofs, this theorem is often able to complete them, or it can bridge some obvious gaps in the argumentation. Past, present and future, for example, are conditions for each other, and must therefore, according to this theorem, exist simultaneously. In the case of production and destruction, too, OETKE is able to show that his "theorem ... and the principles that lie at its root can be exploited to account for the way in which the author of the MMK argues" in the relevant passage. OETKE mentions some other passages where the theorem might play such a role, and observes, quite generally, that this theorem and the related views constitute a principle that lies at the root of a *great number* of argumentative reasonings in the MMK.

OETKE may be right in thinking that his theorem is capable of explaining a great number of argumentative reasonings in the MMK. The question is however whether this really solves the problem. Does the solution not rather shift the problem? Isn't the fallacious character of the theorem so obvious that it seems quite improbable that the author of the MMK should not have noticed it? Is it conceivable that Nāgārjuna clung to it without special reasons? Which then were those reasons? Why should anyone accept such a peculiar theorem? Indeed, OETKE himself feels obliged to make the following

concession: "It is true that on the hypothesis that [the above theorem] and its [31] underlying assumptions play a key-role in the mentioned passages it would hold that the author of the MMK applied principles to instances that contradict their general validity."

I think that the problems discussed by OETKE can be solved differently. To begin with, we must recall that Nāgārjuna was a Buddhist. In his time many Buddhists had come to look upon the phenomenal world as being ultimately unreal. Objects in the phenomenal world were considered to have nominal existence only. OETKE himself describes this situation in his article "Rationalismus und Mystik in der Philosophie Nāgārjunas" in the following words:³

Es ist wohlbekannt, dass in bereits relativ früher Zeit im Buddhismus die Tendenz bestand, aus Bestandteilen zusammengesetzten Dingen letzte Existenz abzuspochen. Der vielleicht berühmteste Text, der diese Auffassung (oder zumindest die Tendenz zu dieser Auffassung) belegen dürfte, ist der Abschnitt des Wagleichnisses des Milindapañha. Man muss annehmen, dass die Ansicht, derzufolge aus Elementen konstituierten Dingen nur "nominelle", nicht letzte Existenz zuerkannt werden kann, sich zur Zeit N[āgārjuna]s bei den Buddhisten weithin durchgesetzt hatte. Die Prinzipien, mit denen diese Art von "ontologischer Reduzierung" begründet wurden, finden sich nun in Texten, die von der Zeit der Entstehung des Madhyamaka nicht allzu weit entfernt sind, ausdrücklich genannt.

OETKE uses this description of the ideas current in Nāgārjuna's time to make plausible that Nāgārjuna accepted the theorem which we call OETKE's theorem. These ideas can, however, shed more direct light on Nāgārjuna's arguments.

The phenomenal world, seen in this way, is completely determined by words. It is also, ultimately, unreal. Nāgārjuna inherited this belief, and, it appears, extended it. He may have been the first to draw sentences into the picture, besides individual words. And what he tried to do is to show that many of those sentences are somehow impossible, or self-contradictory. He did not, however, abandon the pan-Buddhist belief that words and things in the phenomenal world correspond to each other. This belief is rather, in an important way, his point of departure. He concludes from it that the words of a sentence must correspond, individually, to things in the phenomenal world. More precisely, the words of a sentence must correspond, one by one, to the things that constitute the situation described by that sentence. In the case of the sentence "Devadatta reads a book" there can be no doubt that this sentence describes a situation in which there are three things: Devadatta, his book, and the activity of reading.

³ Cp. OETKE, 1989: 12.

However, in certain other cases this position gives rise to the difficulties and contradictions which have become Nāgārjuna's hallmark. In the end they supposedly prove that the phenomenal world is indeed ultimately unreal.

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Take as an example the sentence "Devadatta makes a jar" (*devadatto ghaṭam karoti*). This sentence describes a situation in which supposedly three things interact: Devadatta, the activity of making, and a jar. These three objects must be there, while and as long as the action of making a jar is in progress. But this is impossible, for at that time the jar is still being made, and is therefore not yet in existence.

This simple principle — which I have approximately described as "the words of a sentence must correspond, one by one, to the things that constitute the situation described by that sentence"; I will refer to it as the "correspondence principle" — seems capable of explaining many of Nāgārjuna's arguments. I shall limit myself to the ones dealt with by OETKE in connection with his theorem.

Before doing so, I wish to emphasize that Nāgārjuna's arguments concern the phenomenal world, not language. Since, however, he believed that the phenomenal world is determined by language, his arguments are often based on certain linguistic features.

Turning now to Nāgārjuna's arguments, consider first the first two verses of chapter 19 of the MMK:⁴

If present and future existed depending on the past, (then) present and future would be in the past. If present and future would not be there [in the past], how would present and future be depending on that?

This verse concerns the true statement: "Present and future depend on the past", in Sanskrit: *pratyutpanno 'nāgataś ca atītam apekṣya (staḥ)*.⁵ Our correspondence principle requires that present, future and past are there in the situation described, which is the phenomenal world. In other words, present and future are in the past, present and past in the future, and future and past in the present.

The discussion of production and destruction in chapter 21 of the MMK is very similar. It concerns the statement "destruction depends on production", or "destruction occurs along with production", or even "destruction necessarily follows production". All these statements — which apply without doubt to the phenomenal world — describe

⁴ MadhK(deJ) 19.1-2: *pratyutpanno 'nāgataś ca yady atītam apekṣya hi/ pratyutpanno 'nāgataś ca kāle 'tīte bhaviṣyataḥ/ pratyutpanno 'nāgataś ca na stas tatra punar yadi/ pratyutpanno 'nāgataś ca syātām katham apekṣya tam//tr.* OETKE.

⁵ Note the independent use of the absolutive in MadhK(deJ) 19.1ab.

a situation in which destruction and production must coexist. This, however, gives rise to the confrontation with experience expressed in verse 5:⁶

How should production be together with destruction? For birth and death are not found [like that] at one and the same time.

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As a further example OETKE refers to MMK 1.6:⁷

Neither of a non-existent nor of an existent thing is a cause possible. Of what non-existent (thing) is there a cause, and of an existent (thing) what is the use of a cause?

Seen from the point of view of the correspondence principle, there is no difficulty in understanding the verse. The statement "a is the cause of b" or "the effect depends on the cause", along with our principle, justifies the conclusion that effect and cause must be part of the phenomenal world. This means that the cause has an existent effect. Our experience, on the other hand, teaches that the effect does not exist while its cause exists.

MMK 7.2, also mentioned by OETKE to illustrate the applicability of his theorem, reads:⁸

The three (characteristics) origination etc. are separately not capable of the performance of the characterization of the conditioned (thing); (but) how would they be together at one place at one time?

The answer inspired by the correspondence principle is easy: these three characteristics are together in the phenomenal world, because they depend upon each other — destruction depends on origination, etc. — and because true statements can express this. In our experience, on the other hand, the three characteristics do not occur together. Once again we arrive at the contradiction, which it is Nāgārjuna's intention to demonstrate.

Finally there is MMK 10.11, which has a parallel in VV 42 + commentary. It reads:⁹

⁶ MadhK(deJ) 21.5: *sambhavo vibhavenaiva katham saha bhaviṣyati/ na janma maraṇaṃ caiva tulyakālaṃ hi vidyate*//tr. OETKE.

⁷ MadhK(deJ) 1.6: *naivāsato naiva sataḥ pratyayo 'rthasya yujyate/ asataḥ pratyayaḥ kasya sataś ca pratyayena kim*//tr. OETKE.

⁸ MadhK(deJ) 7.2: *utpādādyās trayo vyastā nālaṃ lakṣaṇakarmaṇi/ saṃskṛtasya samastāḥ syur ekatra katham ekadā*//tr. OETKE.

⁹ MadhK(deJ) 10.11: *yo 'pekṣya sidhyate bhāvaḥ so 'siddho 'pekṣate katham/ athāpy apekṣate siddhas tv apekṣāsyā na yujyate*//tr. OETKE.

The thing that is established in dependence, how could it depend (when it is) unestablished? Or it depends (when it is) established — (then) its dependence is not possible.

Unfortunately OETKE does not say how he makes this verse intelligible with the help of his theorem, and nor am I quite sure how to elucidate it with the correspondence principle.

It is time to compare the two different types of explanations which we have considered so far. OETKE's theorem, as far as I can see, explains the different verses satisfactorily, but so does the correspondence principle. This raises the question whether OETKE's theorem and the correspondence principle are somehow equivalent, that they constitute two different ways of saying the same thing. [34] This is not however the case. It seems justified to think that the correspondence principle covers all cases also covered by OETKE's theorem, but not vice-versa. For any sentence of the type "A is the condition of (the existence of) B" — which expresses the realm of applicability of OETKE's theorem — falls automatically in the realm of the correspondence principle, which concerns all sentences whatsoever. Sentences that are not of the type "A is the condition of (the existence of) B", on the other hand, are not covered by OETKE's theorem, yet they fall within the realm of the correspondence principle.

I have already drawn attention to the fact that the correspondence principle has the distinct advantage of fitting in well with what we know was a generally held belief among the Buddhists of the time, the belief that there is a close connection between words and the objects of the phenomenal world. In this it contrasts sharply with OETKE's theorem, which makes one wonder why anyone should have accepted such a counterintuitive statement. We have seen that OETKE himself gave expression to similar doubts. In order to strengthen the case for the correspondence principle even further, we will discuss some cases where this principle offers a direct and obvious explanation of Nāgārjuna's argument, whereas OETKE's theorem is either of no help, or is of help only in a round-about, non-obvious manner. These cases, be it noted, do not prove that OETKE's theorem is somehow incorrect. On the contrary, this theorem, as it seems to me, is confirmed and strengthened by the circumstance that it appears to constitute part, a special case, of a wider principle accepted by Nāgārjuna.

A case where OETKE's theorem does not appear to be applicable occurs in the second chapter of the MMK, which proves the impossibility of going. Verse 5 reads:¹⁰

¹⁰ MadhK(deJ) 2.5: *gamyamānasya gamane prasaktaṃ gamanadvayam/ yena tad gamyamānaṃ ca yac cātra gamaṇaṃ punaḥ//*

If there is a going of [a road] that is being gone, there would be two goings: that by which the [road] is being gone, and again the going on it.

Underlying this argument is some such sentence as "[the road] which is being gone, is being gone" (*gamyamānaṃ gamyate*; cp. MMK 1d: *gamyamānaṃ na gamyate*); Nāgārjuna appears to think that it is well-formed. In the situation described by this sentence, there must be two goings, for two words that refer to going figure in the sentence. This is what verse 5 says, and this is what we expected on the basis of the correspondence principle.

This example, more than most others, demonstrates the close connection that exists for Nāgārjuna between language and reality. It seems to me unlikely that OETKE's theorem can explain this verse, and I would be surprised to see it satisfactorily explained by any theorem or principle that does not take the close connection between language and reality into account.

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The theme of the two goings comes up again later on in the same chapter, this time in connection with the sentence "the goer goes" (*gantā gacchati*). Verses 22 and 23 read:¹¹

The going by which the goer is manifested, that he does not go, because he is not prior to going. For someone goes something. Another going than that by which the goer is manifested, he does not go, because two goings cannot occur at one (single) goer.

Seen from the point of view of the correspondence principle, the problem described in these verses is clear. Two words referring to the act of going occur in the sentence "the goer goes", so there should be two acts of going. Since this is impossible in the case of one goer, we have to decide which of the two the goer goes: is it the one that gives him his name 'goer'? or is it the other one? The one that gives him his name has to precede him. But the going he goes must follow him, "for someone goes something".

Interestingly, OETKE discusses these same two verses, too. According to him, "It seems that the mechanism involved here consists in a remodelling of the symmetrical relation of bilateral implication into a non-symmetrical dependence relation between particulars." In a note he admits that such a transformation is not immediately obvious in the case of these two verses, and in his main texts he points out that it would need a thoroughgoing analysis of the whole chapter to substantiate his statements "which

¹¹ MadhK(deJ) 2.22-23: *gatyā yayājyate gantā gatim tāṃ sa na gacchati/ yasmān na gatipūrvo 'sti kaścīd kiṃcid dhi gacchati// gatyā yayājyate gantā tato 'nyāṃ sa na gacchati/ gatī dve nopapadyete yasmād eke tu gantari//tr. OETKE.*

cannot be taken up here". It is a pity that OETKE does not discuss the use of his theorem in the case of these two verses, for they might constitute a case where the relative merits of his theorem and of the correspondence principle could be compared.

Another case is MMK 7.17, which reads:¹²

If any unproduced entity is found anywhere it could be produced. Since that entity does not exist, what is produced?

This verse could be illustrated with the sentence "The jar is produced". Since this phrase does not, as far as I can see, refer to two objects, one of which could be the condition of the other, OETKE's theorem would seem to be inapplicable here. The correspondence principle, on the other hand, is applicable, and requires that words of this sentence must correspond to objects in the phenomenal world. But of course there is no jar in the situation described by the sentence "The jar is produced".

Having argued that the correspondence principle appears to give expression to Nāgārjuna's more or less consciously held beliefs, it is necessary to point out [36] its weaknesses. We formulated this principle in the following, approximate, manner: "the words of a sentence must correspond, one by one, to the things that constitute the situation described by that sentence". This formulation gives of course rise to many questions. Did Nāgārjuna really believe that there are objects in the phenomenal world corresponding to all words, including adverbs and other indeclinables? And even if we only consider nouns, adjectives and verbs, did Nāgārjuna really think that these three types of words imposed some kind of ontology upon the phenomenal world, as the Vaiśeṣikas did? Other questions of a similar nature could be asked, but unfortunately it may not be possible to find satisfactory answers to any of them. I do not think that Nāgārjuna's MMK and VV contain passages that would allow us to draw conclusions as to his position in matters like these. But then, he may not have worried much about the precise ontological structure of the phenomenal world, for the phenomenal world, for him, had ultimately no existence whatever, and therefore hardly merited all that much attention; the same is true for words, which do not really exist either. Nāgārjuna may not have been really interested in these questions, and we, modern researchers, may have to content ourselves with the observation that the correspondence principle, though incomplete and imprecise, helps us to understand Nāgārjuna's arguments. While trying to identify tacit assumptions, however, we have to take into account that the first

¹² MadhK(deJ) 7.17: *yadi kaścīd anuṣṭanno bhāvaḥ samvidyate kvacit/ utpadyeta sa kim tasmin bhāve utpadyate 'sati//*. This translation follows OETKE (1992 [p._203; cp. p._210_f.]), who discusses and rejects the possibility of a logical error in this verse.

requirement is not that these assumptions look plausible to us. They should be such that they can reasonably be considered to look plausible to the author concerned, in this case Nāgārjuna. And this, I would think, can safely be said of the correspondence principle.

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Abbreviations

MMK	Mūlamadhyamakakārikā
MadhK(deJ)	Nāgārjuna, Mūlamadhyamakakārikāḥ, ed. J. W. DE JONG
VV	Vigrahavyāvartanī, ed. E. H. JOHNSTON and ARNOLD KUNST (in BHATTACHARYA, 1986)