THE LIMITED APPLICATION OF THE DESCRIPTIO

GENERICO-SPECIFICA

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The utopian day will soon be here when controversies about typification will cease. At least, what controversy can there be about the type of a name published on or after 1 Jan. 1958, when Art. 37 rules that thereafter only holotyphied names need be taken into consideration as validly published? As we all know, holotypes automatically fix the application of the names concerned (Art. 7). In future, we shall continue to argue about the disposition of particular collections. We shall wonder whether this type specimen, now dried and long dead, once possessed certain characteristics to be found in living material, characters we should like to use in our classification. Taxonomic disagreement will persist. But as for nomenclature: once we have approved the typification of pre-1958 names, lectotypification will become a thing of the past, for all post-1958 names will be joined to their types in an indissoluble union that is safe from changes based on taxonomic dissension.

Or is this necessarily so? Actually, this ideal state of nomenclatural affairs depends on how we treat holotypes. If, as is frequently proposed, when the nomenclatural type of a new genus is given as an already known species, the description of the genus is taken as a *descriptio generico-specifica* with the possibility of a taxonomic revision affecting holotypification, Art. 37 will never achieve its end of eliminating uncertainty about types. It is my intention to examine the problem here and demonstrate, by what I consider to be strict application of the type method, that a properly supported Art. 10 ("the nomenclatural type of a genus... is a species") can help Art. 37 bring about a nomenclatural millennium.

All that is required of us is that we appreciate the role of a generic description in relation to the distinction between two fundamentally different forms of nomenclatural typification:

A. holotypification, wherein what an author has done (either by the use of what is 'one element' to him or by direct designation) is clear to any nomenclaturist; and

B. lecto- and neo-typification, when the choice of a type is made on behalf of the author, and may be made only by those capable of understanding the taxonomy of the group.

Let us consider these two forms of typification with reference to the nomenclature of the genus. Our basis for discussion is given as a hypothetical case so that we can avoid names to which allegiances have become fixed. If the names of the cited authors appear to be familiar, you are asked to approach them in the light of the usual disclaimer regarding reference to anyone living or dead etc.

Case Aa may be outlined as follows:

*Alteronomen* Wagner is published in 1958 with a latin diagnosis, a description in German, an illustration, and the designation of *A. primum* (ScarI.) Wagner as the type species, with full reference to the basionym *Nomen primum* Scarlatti 1850, and the notation that Wagner had examined two locally collected specimens of the species (Wagner No. 1 and No. 2).

Here is a "choice made by the original author... definitely expressed at the time of the original publication of the name of the taxon... [and therefore]... final"
(Guide for the Determination of Types). *Nomen primum* Scarl. is the holotype which "automatically fixes the application of the name concerned" (Art. 7).

We proceed with the history of this case.

In 1962, Wagner announces that the material he described earlier under *Alteronomen* is identifiable not as *Nomen primum* Scarl. but as *N. secundum* Debussy.

In 1965, Vaughan Williams reports that Wagner's 1958 description was based on the collection numbered Wagner No. 1, which Vaughan Williams now designates as type of a new species, *Alteronomen tertium* V.W.

To me, this series of post-publication events does not alter the typification of the name *Alteronomen* Wagner. It remains *Nomen primum* Scarl. no matter what anybody says about the material Wagner had at hand, described or illustrated. If the name *Alteronomen* is to be used, its holotype *Nomen primum* Scarl. must be the basis for application of the generic name.

There are those, however, to whom the description which validated publication of the name *Alteronomen* must now and forever be considered a descriptive generically specifica, and one of Wagner's own specimens the (?) lectotype 'generic type specimen'. To them (Donk 1952 etc.; Furtado 1964; Nannfeldt & Eriksson 1952: 111; et al.), Wagner's *Alteronomen* is holotyped not by *Nomen primum* Scarl. but by *Nomen primum* Scarl. 'sensu Wagner', and the above series of taxonomic controversies regarding Wagner's material result in the following nomenclatural changes:

(i) 1962: In his second publication, in accordance with his redetermination of the material he had at hand in describing the genus, Wagner changes the typification as follows:

*Alteronomen* Wagner 1958 emend. Wagner 1962

Type: *A. secundum* (Deb.) Wagner comb. nov. (= *Nomen secundum* Debussy 1869 etc.; = *N. primum* sensu Wagner 1958 non Scarl. 1850; non *Alteronomen primum* (Scarl.) Wagner quod est *N. primum* Scarl., sec. Art. 55 par. 2)

(ii) 1965: Vaughan Williams, disagreeing with both of Wagner's determinations, corrects the typification as follows:

*Alteronomen* Wagner 1958 emend. V.W.

Type: *A. tertium* V.W. (typus: Wagner No. 1) (= *Nomen primum* sensu Wagner 1958 non Scarl. 1850; cf. descr. 1958; = *N. secundum* sensu Wagner 1962 non Deb.; non *A. secundum* (Deb.) Wagner q.e. *N. secundum* Deb.)

(iii) And if, perhaps in 1970, Sibelius chanced on the type of *Nomen primum* Scarl., and concluded that it matched both Wagner No. 2 and Wagner's 1958 illustration, we should be swung back to Wagner's original typification as follows:

*Alteronomen* Wagner 1958

Type: *A. primum* (Scarl.) Wagner (cf. pl. and Wagner No. 2)

Paratype: *A. secundum* (Deb.) Wagner (= *A. tertium* V.W.; cf. Wagner No. 1)

Those who subscribe to the theory that all generic descriptions are to be taken also as diagnoses of their type species would support this series of changes in the typification of the name *Alteronomen* by the argument that "it is necessary to establish the exact identity of his specimens in order to... be able to apply the generic name correctly" (Donk 1952). But the 'exact identity' of a specimen is frequently a matter of personal opinion. As Donk himself (1952) has said: "A species may be variously interpreted as to its limits; it may be narrowly or broadly conceived". Its type specimen may be far from typical of the species. In fact, the type specimen of the species may barely penetrate the fringe of the circumscription Wagner would consider appropriate to the type species of his generic name. But no matter what limits Wagner might place on the species, his unqualified use of the name *Nomen primum* Scarl. placed its type specimen within that circumscription. And it is there-
fore *N. primum* Scarl., not *N. primum* sensu Wagner that is the holotype species of *Alteronomen*.

Wagner may have given nomenclatural typification to his new genus by referring it to a species of *Acer* though he illustrated a *Fraxinus*; and he may have done this deliberately because he considered all samara-producing trees conspecific and his genus potentially inclusive of all woody plants. Undoubtedly a man with so little understanding of the 'proper' taxonomy of plants does not deserve to have either his nomenclature or his taxonomy taken seriously, but as long as his publication has satisfied the rules of nomenclature, his name must be recognized, and the (holo)-typification of the name by the *Acer* species must remain unaltered by any post-validation judgement of what he might have done had he known better, or of what he actually meant to do.

Either the author's typification is accepted as stated by him, or you may judge that the application of his name becomes impossible with such typification and circumscription, and throw it out as a *nomen consfusum*, which it most certainly is not when the designation of type has been unequivocal. From this fate, the name could be saved by "selecting one of the elements as a satisfactory type" in accordance with Art. 70. But this again places holotypification by a known species into the category of the 'never proved', as vulnerable to revision as a totally untyped name.

You may consider Wagner's species-concept far too broad, as Vaughan Williams did later, but here! you challenge his taxonomy, not his nomenclature. You may question whether he knew what he was talking about when he used the name of the species (as Wagner himself did in 1962), but again, this is a post-publication taxonomic query. And taxonomic revisions can affect only lecto-, not holo-, typification (Art. 7).

It may be that, as Donk (1952) has pointed out: "in some cases... the type species is obviously indicated by a misapplied name". Yet the obviousness postulated is a matter of degree in direct proportion to the taxonomic acuity of the reader, an acuity that might be challenged, on occasion, as the prejudice of a 'splitter'. I do not mean to imply that there are no instances in which complete agreement cannot be reached on the misidentification and re-identification of the material the author had at hand. I merely point out that this material may be allowed no special significance if the generic name has been typified explicitly, or if the author accepts his specimens as belonging to the one species ('one element') for which his genus is erected.

The proponents of the idea that a holotype species must always be thought of as *sensu Wagner* see the disruptive influence of this approach as only occasional because "in many cases there is no pressing need to study his specimens because there is no reason to doubt what species the author had in mind" (Donk 1952). The rarity of the disruption, however, scarcely constitutes justification for ignoring the basic tenet of the Code which rules that wherever this name, *Nomen primum* Scarl., goes, there goes its type specimen ("The application of names of taxonomic groups is determined by means of nomenclatural types" — Principle II). Hence, when an author refers to a species by name, there is never a nomenclatural reason to "doubt what species the author had in mind", for the type specimen determines the application of the name. And when this author refers to the previously known species in order to make it the holotype of a new generic name, he may interpret the limits of the species as he will, but it is the species with the already typified name that is type of the generic name, not his interpretation of that species.

This same reasoning applies to what we shall call Case Ab in which Wagner, writing (let us say) in 1925, i.e., before designation of a type became mandatory for valid publication, presented *Alteronomen* with a description, an illustration, a comment

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about the collections he had studied, and one new combination, *A. primum* (Scarl.) Wagner, without formally designating a type.

According to Art. 7, Note 2, if an author does not designate a nomenclatural type, but uses only 'one element', that one element is his holotype. Here Wagner is obviously confident that he is using one element, for he gives only one new combination for the taxon for which his genus has been erected, and shows no evidence of doubt about the identity of his material with the nomenclatural type of Scarlatti’s species. There is thus no nomenclatural reason to question what species is meant, the reference to Scarlatti constituting, in 1925, adequate indication of the basionym. The genus is monotypic in the eyes of the author, and its name to be applied in accordance with an already known species. In Case Ab, as in Case Aa, *Alteronomen* Wagner is holotypified by *Nomen primum* Scarl.; later taxonomic reconsiderations of the ‘exact identity’ of Wagner’s material may not be introduced in order to change the identity of a holotype.

It is only when holotypification does not exist in the terms of the Code that we are forced into the uncertainty that may result in the procedure (i) to (iii) above. As an example of such a circumstance, we have Case B: Wagner’s *Alteronomen* is published in 1925 with a description, an illustration labelled *A. primum* (Scarl. ?) Wagner, and a reference to the collections under study.

Here Wagner has fulfilled all 1925 requirements for valid publication of his generic name. The compiler of a nomenclatural index would file the type as *A. primum* (Scarl. ?) Wagner. According to Art. 55, 2nd par. and Art. 34, Note 1, *Nomen primum* Scarl. has been validly transferred to the new genus. But is it a holotype as in Case Ab?

Even someone knowing nothing about the taxonomy of the group can see that the question mark which follows reference to Scarlatti indicates a problem regarding typification. Legally, *Nomen primum* Scarl. has been incorporated in *Alteronomen*, but Wagner is openly uncomfortable about its presence in his genus. What he says by that question mark is that he has proposed a new genus for what may or may not be one taxon, his material questionably identical with a species known under the name of *N. primum* Scarl. In other words, the question mark places the emphasis on his material and his description as the place to look for typification. By admitting *N. primum* into his generic circumscription, which means that he includes its type, Wagner realizes that he may have more than ‘one element’ present, not only in the primary circumscription of the genus but even in what he refers to the one species he mentions by name.

The author’s clearly expressed doubt regarding conspecificity, having cast doubt on the presence of one element, removes the one species he cites from the position of holotype and takes the problem of typification out of the hands of the nomenclaturist alone, placing it before the taxonomist who knows the group. In other words, typification here can be decided only through choice of a lectotype. And lectotypification can change if “it can be shown that the choice was based upon a misinterpretation of the protologue” (Guide to the Determination of Types). Hence, in Case B, procedure (i) to (iii) above is unavoidable, but only because the original publication of the genus provided no nomenclatural holotype in the terms of the Code, not because the generic description is necessarily a check on the identity of the type.

Some have argued that the Code itself supports the treatment illustrated in (i) to (iii) as potentially applicable to all generic names based on previously known species. But there are those who appreciate that this position is contrary to the present Code. Nannfeldt and Eriksson (1952: 111) would like to reformulate the rule as follows: “the species by which to typify a generic name must be — not a species whose name

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is merely cited by the author of the genus, but — a species that he virtually had in mind when describing his genus, irrespective of the name he attributed to it. When a genus is based on actual study of specimens this rule could be formulated as follows: The type of a generic name must be a species so circumscribed as to include at least one of the specimens studied by the author when describing the genus; or in other words; It must be one of the species that the author did study, not one of those he merely thought he had before him'. From this it is clear that, while Nannfeldt and Eriksson might prefer to apply the procedure followed in (i) to (iii) whenever they disagree with the author's determination of his own material, they are fully aware that, as the Code stands, the intrusion of a taxonomically based revision between a name and its holotype is not countenanced by a rule (Art. 7, Note 2) which directs that 'a holotype ... the one ... element used by the author or designated by him as the nomenclatural type ... automatically fixes the application of the name concerned'.

Furtado (1964) admits even more openly that Art. 10 does not give him the right to change a holotypification whenever he disapproves of the circumscription given to a type species by the author of a generic name. Furtado claims that "in actual practice the nomenclatural type of a genus is a specimen"; therefore "adequate provision has to be made to indicate such a type specimen which formed the basis of the new genus".

These authors agree that they would like to promote a change in the rules, to specify that the nomenclatural type of a genus be a specimen handled by the author of the generic name, rather than the species he indicates as type or as the 'one element' he is aware of using.

The way in which Donk (1959: 84) treats Cellypha also constitutes an admission that his interpretation of the Code on this point is contrary to its prescription. The type species of Donk's new genus Cellypha is cited as "Cyphella goldbachii Weinm. (in the sense indicated below). Generic type specimen: C. Bas 1519 (L 958.140-484)". This is an extreme example of what Furtado has called "actual practice", a means of bypassing the rule. Because what is meant is unmistakable: that the type of Cellypha is a species whose non-name is in facultative synonymy with Cyphella goldbachii Weinm., Donk's unorthodox action must be accepted as adequate typification. But it is hardly possible for nomenclatural rules to deal with non-existent names, and surely undesirable that all holotypes which are previously known species be in facultative relationship to the generic names they typify.

Art. 37 of the 1961 Code, which rules that, as of 1958, a name is validly published only when its nomenclatural type is explicit, is obviously intended to place all newly published names within the unvarying security of holotypification. We must therefore assure all holotypes of this kind of security. We cannot afford to permit taxonomic disagreement to intervene between a name and what the Code has defined as a holotype. In other words, we must realize that continuing nomenclatural insecurity lies in treating every description of a new genus as a generico-specific one. If the holotype of a generic name is given as a previously known species, this holotype must be accepted in accordance with the previously published typification of the species name, not with the description validating the generic name.

It seems to me that proper stress on this matter can best be made in the Code by a slight expansion of Art. 10. The following proposal is therefore formally made for the addition of a paragraph to Art. 10:

When an already known species is cited in accordance with the Code as the 'one element' on which a genus is based or as the designated nomenclatural type, that species is accepted as holotype unless the author explicitly excludes, or states that he consciously questions the inclusion of the type specimen of the species.
Examples i): *P eniophorella* Karsten (Bidr. Känn. Finl. Nat. Folk 48: 427. 1889) was published for one species cited as "*P. pubera* (Fr.?i) Karst." Obviously Karsten questioned the identity of his material with whatever Friesian *pubera* he thought it might approach. His own material constitutes an unnamed type species; from it, and in accordance with the protologue, a (lecto)type specimen may be chosen to typify the name to be given that species (cf. Donk, Taxon 6: 107. 1957, and Persoonia 2: 222. 1962).

ii): *Cellypha* Donk (Persoonia 1: 84. 1959) was published with the type species cited as follows: "Cyphella goldbachii Weinn. (in the sense indicated below). Generic type specimen: C. Bas 1519 (L 958. 140–484)." Donk has, in effect, selected a neotype for *Cyphella goldbachii* Weinn. However, should his neotype be proved specifically different from the original type specimen, his generic name remains attached by deliberate designation to the species which includes the Bas collection, a species then to be named and its name so typified. This method of citing a type is clear, but hardly recommended, inasmuch as the Code does not deal with specimens as types of generic names.

Note: Post-validation publication of a ‘corrected’ determination of the material the author had at hand may not be used retroactively to change the holotypification of a generic name.

Example: *Kneiffiella* Karsten (Bidr. Känn. Finl. Nat. Folk 48: 371. 1889) was published for one species, *Hydnum barba-jovis* [Bull.] Fries, with a proper transfer of its name to *Kneiffiella*. Whatever material Karsten had at hand (and from which he drew his description), if different from *barba-jovis*, constitutes no more than a paratype (unnamed) taxon in addition to the one species named. The fact that, later, "*Hydnum barba-jovis* sensu Karsten non [Bull.] Fr." became known as *Kneiffiella bombyceina* Karst. does not break the original link between *Kneiffiella* and its holotype, *H. barba-jovis* [Bull.] Fr.

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