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ORTHOGRAPHY OF NAMES AND EPITHETS: LATINIZATION OF PERSONAL NAMES

*Dan H. Nicolson**

Summary

There are two steps to the latinization of personal names: adding *-i-* to the stem of most names ending in consonants (stem augmentation) and determining the appropriate case ending to be added (inflection). A review of Roman personal nomenclature shows that Romans formed surnames from given names by stem augmentation (adding *-i-*) before inflection. Latinization of modern names with stem augmentation honors a person by according his name the same treatment originally accorded only to the surnames of patrician and noble Romans.

Consideration is given to use of personal names in forming adjectival and substantive epithets and determining the appropriate inflections. A review is made of irregularities of stem modification used by botanists in latinizing personal names, particularly those ending in vowels.

Proposals are made for revising Article 73 and Recommendation 73C to give a better organization, to clarify the separate procedures of stem augmentation and inflection, and to remove the example, *Verbena hasslerana*, which is contrary to botanical usage.

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I. INTRODUCTION

The present Article 73 of the International Code of Botanical Nomenclature (Stafleu et al., 1972) states that the original spelling of a name or epithet is to be retained except for correction of typographic or orthographic errors. The main text specifically cites two types of orthographic errors. The first, dealing with "connecting" vowels, has been discussed in a previous paper (Nicolson and Brooks, 1974). The second is "the wrong use of the terminations *i*, *ii*, *ae*, *iae*, *anus* or *ianus*, mentioned in Rec. 73C (a,b,d) . . ." Among the examples cited at the end of Art. 73 are *lecardi*, *wilsonae*, and *verlotorum* which are to be corrected to *lecardii*, *wilsoniae* and *verlotiorum*.

The Flora North America Program, sadly now defunct, created a unique tool used in preparation of this paper, a list of some 12,000 binomials arranged alphabetically by species epithet. I am most grateful to Stanwyn G. Shetler, Program Director of FNA, for making this available. Perusal of this list and other indices indicates that the whole subject of latinization of personal names is in need of review. One example cited in Rec. 73C(d), *Verbena hasslerana*, is so at variance with past and present botanical usage that it probably should be eliminated from the Code. A review of the theory of latinization of personal names should be of interest because it does not appear to be of common knowledge among biologists of today.

Biologists have often used and will probably continue to use personal names as the basis for forming names of their new genera, species and other taxa, although Pesante (1961) pointed out some disadvantages and opposed the practice. The first step in forming these Neo-Latin epithets is latinization of the personal name. Our procedures take us directly from the modern name to the inflected Latin form required and, hence, we often are not aware of the dictionary form (nominative, singular, masculine for a man's name) which is implied in our epithets. For instance, in forming the epithet *lecardii* for Mr. Lecard we have not only implied the dictionary form, *Lecardius*, but all other associated forms in Latin for men in Second Declension and women in First Declension. Thus, forming generic names or specific epithets based on personal names is simply a process of latinizing personal names and adopting the appropriate Latin case endings. This paper attempts to separate these two steps and evaluate them separately.

Basically, there are two different kinds of latinizations of personal names: translation in whole or part into Latin or simply adding an appropriate Latin termination. By translation Bachmann in German ("Brookman" in English) became *Rivinus* in Latin, Duchesne in French ("of the oaks") became *Quercetanus* in Latin, Bock in German ("buck") became *Tragus* in Latin, and Schwartzerd in German ("black earth") became *Melanchthon* in Latin transliteration of Greek, etc. Latinization by translation is an art once common but now rather rare. Occasionally an author faced with a name ending in several vowels will make a complete or partial translation, e.g., Stafleu can be latinized as *Staflos*, *staflores* (gen.) Translation avoids forms that Romans never would have used, e.g., *Stafleuus* (nom. masc. sing.), *stafleui* (gen. masc. sing.) or *stafleuae* (gen. fem. sing.), but has the disadvantage of obscuring the name and gender of the person honored.

Before closing these introductory remarks it should be noted that the International Code of Zoological Nomenclature (Stoll et al., 1964) has

recently modified its provisions concerning latinization of personal names. Before the 16th Congress of Zoology (1963), Article 31 said that species-group names, if nouns formed from modern personal names, could only end in *-i* (not *-ii*), *-ae* (not *-iae*), etc. This meant that past usage of the augmented stem, the extra *-i-* before the inflection, had to be eliminated. Now Article 31 has been deleted, but the same provisions are now in Recommendation 31A. This means that past usage of the extra *-i-* is not to be corrected. Zoologists now must check the original literature to determine the precise original spelling. This is an unfortunate development, but a step in the right direction toward historical latinization of vernacular personal names and the creation of Roman surnames from Roman given names.

2. ROMAN PERSONAL NOMENCLATURE

Societies tend to use monomial personal nomenclature when relatively few people are in contact with each other. Such monomials tend to be strongly evocative and carry meanings clearly understood among those using them. The ancient Roman monomials have become dead "handles" to us but they were originally quite descriptive: *Marcus* (war-like), *Tullus* (uplifted), *Claudus* (crippled), *Julus* (downy), *Petrus* (rock), *Paulus* (small), *Titus* (giant), *Decimus* (tenth), *Rufus* (red), etc.

As the Roman society became more complex, a need for more complex nomenclature developed. By the classical period patrician Romans regularly had three names: the *praenomen* or given name, the *nomen* or house (*gens*) name, and the *cognomen* or family name.

The family names (*cognomina*) were ancient surnames which became hereditary to distinguish different branches of the same *gens*. The *gens Cornelia* had several families, such as *Scipio*, *Sulla*, and *Lentulus*. Like the *praenomina* listed above, the *cognomina* are in the nature of nicknames and are easy to interpret: *Cicero* (chickpea), *Scipio* (staff), *Lentulus* (slow), *Marcellus* (little warrior), *Pictor* (painter), *Caesar* (bluish grey), *Brutus* (stupid), *Sulla* (plunderer). The hereditary nature of *cognomina* is shown by an example from early Roman history. *Lucius Junius* saved himself from the king's jealousy by pretending stupidity, even accepting the *cognomen* "*Brutus*." Eventually he showed his true colors and overthrew the Etruscan King. After this *Brutus* was a *cognomen* of the *gens Junia*. One of the descendants, *Marcus Junius Brutus*, was the murderer of *Gaius Julius Caesar*.

The remarkable thing about Roman personal nomenclature, for the purposes of this paper, is that the names of the various noble houses (*gentes*) are derivable directly from the basis of given names by adding *-i-* before inflection (stem augmentation), such as *Juli-us* from *Jul-us*, *Tulli-us* from *Tull-us*, *Marci-us* from *Marc-us*, *Claudius* from *Claud-us*, *Cassi-us* from *Cass-us*, *Aquili-us* from *Aquil-us*. These derived names are properly adjectives, formed by adding *-ius* to the base of the given name of the real or supposed original head of the house. Because of this adjectival nature these names appear in feminine when denoting women: *Julia*, *Marcia*, *Claudia*, etc., and in masculine when denoting men: *Julius*, *Tullius*, *Marcus*, etc. When one refers to a specific *gens*, such as the *gens Julia*, the feminine form is appropriate because the word *gens* is feminine.

Examples of basing the *gens* names on famous ancestors can be found in

Vergil's "Aeneid" who points out the noble *gens Julia* of *Gaius Julius Caesar* traces its origin back to *Iulus* (or *Julus*), son of *Aeneas*.

It should be remembered that relatively few Romans had trinomials, only the members of the upper class. We only read about the famous Romans but the bulk of Roman society must have been lower class farmers, menials, soldiers and slaves who largely used monomials. Thus, a surname with an augmented stem (an extra *-i-*) denoted a Roman of the upper class.

The *gens* system of personal nomenclature completely disappeared with the collapse of the Roman Empire and the rise of Christianity. With conversion to Christianity people gave up the pagan trinomial *gens* system of naming and were reborn in the Church with hellenic or early Christian given names. During the Dark Ages Europe essentially returned to monomial personal nomenclature.

3. REGULAR LATINIZATION OF MODERN PERSONAL NAMES

Vestiges of antique influence survived the Dark Ages. Latin remained current as a learned and universal language. As modern surnames began to evolve authors had a strong temptation to latinize their names. At first this was predominantly done by translating their vernacular names back into Latin but many names were latinized simply by adding appropriate Latin inflections to the original vernacular names.

Given (non-hereditary) names were typically latinized by simple inflection, adding *-us* to form the masculine nominative singular:

Albertus (from Albert, originally *Adel-bertho* or "brilliant noble"),
Bernardus (from Bernard, originally *Bern-bardo* or "strong bear"),
Ricardus (from Richard, originally *Ric-bardo* or "strong power"),
Conradus (from Conrad, originally *Cun-rado* or "counsel of kin"),
Cordus (from Cord or Kurt or "short," which could have been translated into Latin as *Curtus*).

Hereditary surnames, perhaps particularly those of the nobility, tended to be latinized by augmenting the stem (adding *-i-*), before the usual *-us* inflection: *Brunfelsius* (from Brunfels), *Fuchsius* (from Fuchs), *Lobelius* (from de l'Obel), *Moehringius* (from Moehring), *Bellonius* (from Belon), etc.

The present provision of Recommendation 73c (b) (Stafleu et al., 1972) which recommends forming epithets (nouns in genitive) from the name of a man by adding the letters *-ii* when the name ends in a consonant, is a reflection of the ancient Roman tradition: a surname, like the name of a Roman *gens*, is signalled by augmentation of the original stem plus the appropriate Latin inflection. In a historical sense latinizing a person's name with stem augmentation (adding *-i-* before the inflection) honors the person by according his name the same treatment originally accorded only to surnames of patrician and noble Roman families.

The theoretical exceptions to this procedure of stem augmentation are given names and surnames ending in a vowel. The stem of a given name theoretically should not be augmented in latinization because this is precisely how the Romans differentiated the surnames (*Julius*, *Tullius*) from the given names (*Julus*, *Tullus*) which gave rise to the surnames.

Surnames ending in vowels are not augmented for the practical reason of avoiding creation of strings of vowels that the Romans never used. A

fuller consideration of these exceptions and other irregularities of stem modification in latinization follows the discussion of the formation of specific epithets from automatically latinized surnames.

4. SPECIFIC EPITHETS AND THEIR INFLECTION

There are two forms of specific epithets based on personal names, substantive and adjectival. Consideration must be given, not only to the inflections appropriate to each form, but to which form is appropriate in a given example.

a. *Substantive vs. adjectival epithets*: Stearn (1966, p. 294) points out that there once was a convention of using the substantive form (*hemsleyi*, *lecardii*) when the person(s) honored had a substantive part in the new taxon, i.e., had collected the taxon or recognized it as new. The adjective form (*hemsleyanus*, *lecardianus*) was preferable when the name was merely given as a compliment to one who was not, or was only indirectly, involved with the new taxon. Botanists have paid little attention to this distinction; probably few knew it had ever been proposed. However, the distinction is grammatically appropriate and can be followed when naming new taxa or renaming illegitimately named ones.

b. *Inflection of substantive epithets*: Substantive epithets based on personal names (*balansae*, *hemsleyi*, *hectoris*, *verlotiorum*) are nouns in the genitive case with gender and number strictly controlled by the gender and number of the person(s) honored. The case ending of substantive epithets never reflects the case, gender and number of the generic name, as do adjectival epithets.

There are three factors in determining the proper genitive inflection: the gender of the person(s), the number of the person(s) and the declension in which the name is latinized. The possible genitive singular and plural inflections appropriate to substantive epithets based on personal names are given in the following table, along with the nominative singular inflections used in the dictionary form of the latinizations.

TABLE I *Latin inflections of personal names used as substantives*

DECLENSION		FIRST	SECOND	THIRD
GENDER		f. (m.)	m.	m. (f.)
CASE	NUMBER			
Nom.	Sing.	-a	-us	various
Gen.	Sing.	-ae	-i	-is
Gen.	Pl.	-arum	-orum	-um

The question of number is simple, one person is singular and two or more, plural. The question of gender is also simple, a person is either masculine or feminine; however, if the number is plural, masculine gender is used unless all are women.

Very few personal names fall into Third Declension. The few personal names that have been treated in Third Declension (genitive, singular, *-is*)

are of three kinds: names already in classical Latin Third Declension (*hectoris* from Hector, *beatricis* from Beatrix, *johannis* from *Ioannes*), names translated into medieval Third Declension forms (*hugonis* from Hugh, *brunonis* from Brown) or names treated as if they were similar nouns in classical Third Declension (*chamissonis* from Chamisso, *hugonis* from Hugo, *brunonis* from Bruno). The use of Third Declension is required for the first category, names already in classical languages. However, when such names are surnames, as they were not in the classical languages, they are better treated in First or Second Declension with stem augmentation appropriate to their status as a surname. The use of Third Declension for the other two categories, as frequently done by older authors in latinizing personal names ending in *-o*, is not recommended but is not an error (as discussed in Section 6 below).

Names of women, whether surnames or given names, are handled in First Declension, (genitive singular: *-ae*), as are names of men which end in *-a* (*balansae* from Balansa, *trianae* from Triana). These names of men, although appearing feminine because they are handled in First Declension, are no less masculine than the classical First Declension nouns ending in *-a*, such as *advena* (foreigner), *agricola* (farmer), *incola* (inhabitant), *nauta* (sailor) and *poeta* (poet). Some workers (Baranov, 1968, p. 12) state that masculine names ending in *-a* should take the genitive *-i* (Second Declension) but this is contrary to preponderant botanical usage and the Code, hence to be corrected as an orthographic error when found.

Most epithets based on personal names are in Second Declension, masculine (genitive, singular: *-i*) because they honor a man (with the rare exceptions cited above of men's names in First and Third Declension).

c. Inflection of adjectival epithets: Adjectival epithets honoring people are formed by adding the adjectival suffix *-an-* to the latinized stem of the personal name before adding the appropriate case ending. The case endings of adjectival epithets are strictly controlled by the gender, number (always singular), and case (usually nominative) of the generic name. These epithets never reflect the gender and number of the persons honored, as do substantive epithets. Feminine generic names require First Declension for these adjectives (*Lysimachia hemsleyan-a*). Masculine generic names require Second Declension masculine (*Cyperus fenziian-us*). Neuter generic names take adjectives based on personal names in Second Declension neuter (*Geranium robertian-um*). Thus, the appropriate inflections for adjectival epithets based on personal names are: *-a* (fem.), *-us* (masc.), and *-um* (neuter), all in nominative singular.

However, an author writing in Latin may refer to a binomial in a case other than nominative if the name of the taxon is the object of a verb or governed by a preposition. In this case an adjectival specific epithet will not have a usual nominative inflection given above but one concurring with the case and gender required for the generic name.

5. EXCEPTIONS TO REGULAR STEM AUGMENTATION

In Section 3 above, it was pointed out that modern personal names regularly are latinized by stem augmentation (adding *-i-*) before inflection in Latin. Section 4 dealt with factors in determining the appropriate inflections for substantive and adjectival epithets. This section deals with regular exceptions to stem augmentation.

a. *Personal names ending in vowels*: There is really no controversy surrounding non-augmentation of personal names ending in vowels. As was pointed out in Section 3, the stem is not augmented in order to avoid unnecessarily long strings of vowels. Thus one obtains epithets like *hemsleyi* and *hemsleyana* (three vowels) rather than *hemsleyii* and *hemsleyiana* (four vowels) or *glazioui* and *glaziouana* (four vowels) rather than *glaziouii* and *glaziouiana* (five vowels). Some authors have made other modifications to the stem to avoid even this many vowels, as discussed in Section 6 below.

b. *Personal names ending in -er*: There is some controversy around augmentation of the stem of personal names ending in *-er*. The Code presently provides examples indicating that names ending in *-er* should not be augmented (*kerneri* from Kerner, and *Verbena hasslerana* from Hassler). Botanical usage heavily supports the former (substantive) form as an exception to stem augmentation but equally heavily rejects the latter (adjectival) form as an exception. Therefore some consideration is necessary.

Personal names ending in *-er* originally were descriptive nouns in apposition and were not hereditary. Names like Fisher (one who fishes) Hooker (one who hooks), Baker (one who bakes), Fletcher (one who makes arrows) denote occupations. The son of John, the carpenter, might take up a different occupation and be known as Henry, the miller. There is no doubt that these names became hereditary but originally they were not. If these names are latinized as designations, rather than as hereditary surnames, it is simplest to add an inflection. Also, there is a class of Second Declension nouns and adjectives ending in *-er*, for example, *puer* and *asper* (masc., nom., sing.), which become *pueri* and *asperi* in masculine genitive singular. Thus, it is not surprising that botanical usage is so consistent in forming substantive epithets based on personal names ending in *-er* without stem augmentation (e.g., *engleri* rather than *englerii*).

In fact, there is a whole group of suffixes (like *-er*) that characterize descriptive nouns that originally were not hereditary. Some of these denote a son (*-son*, *-sen*), one who (*-en*, *-in*, *-on*) or a man (*-man*, *-mann*). Modern nomenclature latinizes these with stem augmentation but earlier botanists often left them unaugmented (*Cyperus engelmannii* Steudel, *Stipa richardsoni* Link, *Delphinium wislizeni* Engelm., *Cheilanthes eatoni* Baker, *Ranunculus gmelini* DC.). However, earlier botanists were not consistent in treating these names as exceptions and all of these should be corrected by augmentation (to *engelmannii*, *richardsonii*, *wislizenii*, etc.).

In forming adjectival epithets from personal names ending in *-er* botanists have been quite consistent in augmenting the stem. The citation of *Verbena hasslerana* in Rec. 73C(d) (Stafleu et al., 1972), logical as it seems, is virtually completely contrary to botanical usage.

Stearn (1966, p. 12) establishes what he calls "consent of the learned" as justification that botanical Latin has diverged from classical Latin. He understands "the consent of the learned" to be fairly consistent usage by nineteenth century botanists of acknowledged scholarship. He lists 33 botanists to whom we can turn for guidance in skillful handling of botanical Latin.

An attempt to determine what these authors did when forming adjectival epithets based on personal names ending in *-er* seemed appropriate. This was not easy, not only because there is no direct way to

look up such epithets, but because authors skilled in Latin tend to form descriptive epithets for their new taxa rather than name them for people. Nonetheless many examples were found and in all cases the stem had been augmented.

Some examples are: *Hieracium reuterianum* Boiss. (also in *Anthemis*, *Campanula*, *Centaurea* and *Crepis*), *Scabiosa schimperiana* Boiss. (also in *Silene*), *Anemone fischeriana* DC. (also in *Alyssum*, *Cerastium*, *Lactuca* and *Stellaria*), *Delphinium olivierianum* DC. (also in *Buffonia*, *Centauria*, *Sinapis*), *Scorzonera aucheriana* DC. (also in *Inula*, *Jurinea*, *Psephellus*, *Pyrethrum*), *Freycinetia baueriana* Engl., *Viola hookeriana* Kunth, *Dichopogon sieberianus* Kunth, *Dioscorea besseriana* Kunth, *Duguetia gardeneriana* Mart., *Artyrea lautereriana* (Bailey) Radlk., *Acalypha muelleriana* Urban (also in *Buxus*), *Canna jaeegeriana* Urban, *Astephanus schlechterianus* Urban. In addition to the consistent usage by these scholars there is *Hieracium sprengerianum* of Linnaeus.

Not only is past usage consistent but so is modern usage: *Bakeridesia bakeriana* (Rose) Bates, *Euceraea sleumeriana* Steyerm. & Maguire, *Centauria sadleriana* var. *pseudo-sadleriana* (Wagn.) Soo, *Mentha spicata* var. *walteriana* (Willd.) Tacik, and *Thelypteris engleriana* (Brause) Reed.

Only two examples of latinization into adjectives of personal names ending in *-er-* without stem augmentation were found. One is the example presently cited in Rec. 73C(d), *Verbena hasslerana* Briq., which is changed in Index Kewensis to *V. hassleriana*. This example of an unaugmented stem is unique in the publication, Chodat's enumeration of Hassler's collections. All other authors consistently used the augmented stem (*Rollinia hassleriana* R. E. Fries, *Eriosema hassleriana* Chodat, etc.). Also, even Briquet in his treatment of Hassler's Verbenaceae, uses the epithet correctly when he cites *Lippia hassleriana* Chodat. The other example is *Gladiolus chevalieranus* Marais (Kew Bull. 28: 313. 1973). This isolated example is probably a case of the modern author or editor adopting the form presently required by the Code rather than following botanical usage.

The augmentation of the stem of personal names ending in *-er-* in forming adjective epithets is too consistently done by past and present botanists to warrant a change. The formation of these names without stem augmentation is so rare that allowing them as exceptions to the rule is not warranted. Hence, *hasslerana* and *chevalieranus* should be corrected to *hassleriana* and *chevalierianus*.

c. *Given names*: In Section 3 it was pointed out that medieval, given, non-hereditary names were latinized without augmentation. In Section 2 the point was made that hereditary Roman surnames are essentially nothing but augmented forms of Roman non-hereditary, given names. In addition to this, past botanical usage seems to be consistent in latinizing given names or surnames which are unmodified given names without stem augmentation, e.g., *Astragalus arthuri* Jones, *Eriogonum gordonii* Benth., *Helicophyllum alberti* Regel, *Xanthosoma maximiliani* Schott, *Philodendron ernesti* Engler.

At this point the Code addresses itself only to personal names and no distinction is made between given names and hereditary names. A literal reading of the Code would probably lead most into regarding all of the above examples as errors to be corrected. This is particularly true of *Eriogonum gordonii*, based on the surname of Alexander Gordon. However, the other four epithets are based on given names, not surnames: A. Arthur Heller, Albert Regel, Maximilian (Emperor of Mexico), and Ernest Ule.

Should given names, such as these be latinized as *Arthurius*, *Albertius*, *Maximilianius*, and *Ernestius* (genitive: *arthurii*, *albertii*, *maximilianii*, and *ernestii*)? Obviously the question is debatable, but my colleagues have convinced me that the answer is “yes” for practical reasons. In the first place it is often difficult to judge whether a name is given or hereditary, particularly when dealing with Asian, African or other non-western personal names. In the second place, attempting to distinguish between the two kinds of names and whether or not the stem augments or not requires time-consuming review of non-botanical considerations and original literature. This places an unnecessary burden on editors and future authors. In short, distinguishing between given names (unaugmented) and surnames (augmented) is not warranted for practical reasons, even though there are grammatical reasons for doing so.

However, an author using a full personal name should not augment the stem of the part representing the given name, e.g. *Salix egberti-wolfii*, named for Egbert Wolf, should not be latinized as *egbertii-wolfii*.

d. *Personal names in inflected or uninflected form*: If a surname is already in augmented inflected form (*Martius*, *Afzelius*) it is appropriate to adopt the appropriate genitive form (*martii*, *afzelii*) without additional stem augmentation. However, the supraaugmented form (*martiusii* or *martiusiana*, as used by de Candolle) is not wrong although not recommended.

If a surname is in unaugmented, inflected form (A. Wislizenus, G. H. Hieronymus, F. Pinkus, J. A. Purpus) there is a natural tendency to adopt the unaugmented genitive form (*wislizeni*, *hieronymi*, *pinkii*, *purpodis*, the latter from *-pus*, a Third Declension suffix). However, this amounts to treating these names as if they were unaugmentable given names. Because they are surnames they may be augmented into *Wislizenius*, *Hieronymius*, *Pinkius* and *Purpusius* with the genitive forms: *wislizenii*, *hieronymii*, *pinkii* and *purpusii*.

Treating modern names as if they were in Latin form by analogy with Latin words with the same ending in nominative case is usually a poor idea. It is done with some justification with personal names ending in the vowel *-o*, as is discussed in Section 6. The binomial *Muhlenbergia richardsonis* (Trin.) Rydb. is based on a latinization of Richardson as if it belonged to the class of Greek words ending in *-ov* which came into Latin in Third Declension (e.g., *-icon*, *siphon*, etc., with genitive *iconis*, *siphonis*). Such pseudo-latinizations are not wrong but they are based on a false analogy and are not recommended.

Some personal names end in uninflected forms of Latin words and a latinist may be tempted to add the inflection without stem augmentation. *Arenaria benthami* may be justified if one recognizes that *hamus* (gen. *hami*) means “hook” in Latin and that *Bent-hamus* (bent-hook) is a partial latinization by translation. I do not think it desirable or necessary to have both *benthami* (latinization as *Bent-hamus*) and *benthamii* (regular latinization as *Benthamius*) stand as correct. This puts authors and editors to unnecessary non-botanical effort to determine the original spelling. It is far simpler to consider Bentham as a personal name ending in a consonant that must be latinized with stem augmentation and *benthami* as an orthographic error to be corrected to *benthamii*.

6. IRREGULARITIES OF STEM MODIFICATION

The previous sections have established the rule of stem augmentation (adding *-i-* before inflection) for personal names ending in consonants. The regular exceptions to stem augmentation are personal names ending in a vowel and personal names ending in *-er*. The latter exception holds only for forming substantive epithets.

This section will explore two other modifications of the orthography of personal names, changing existing letters and adding additional letters (other than the usual *-i-*). These are irregularities not recommended by the Code (Stafleu et al., 1972), but frequently used by earlier botanists and occasionally used today. These irregularities are typically found in dealing with personal names ending in vowels. Their chief virtue is that they avoid unusual combinations of vowels never used by Romans.

a. *Personal names ending in -a*: These personal names regularly latinize with unaugmented stems (*balansae*, *balansanus* from Balansa). Note that in forming the adjectival forms an *-a* is dropped (not *balansa-ae*, *balansa-anus*). Technically, it is the terminal *-a* of the name that is dropped before adding *-anus* (*-ana*, *-anum*), but practically it is easier to consider the stem as intact, as it is in most other cases, and that the total inflection is *-nus*, (*-na*, *-num*), a special exception only for names ending in *-a*.

Because the final *-a* is technically an inflection in Latin and is not part of the stem it is possible that some authors may consider that a name like Balansa actually ends in a consonant (Balans-) and thus, should be augmented (*Balansius*, genitive *balansii*). I have not noted use of this irregular latinization.

It is possible to find and make augmented latinizations of personal names ending in *-a*, by adding *-e-* instead of *-i-* (thus *Pterolepsis balansaei* represents an augmented latinization of Balansa, *Balansaeus*; *Randia sagraeana* is an adjectival form based on an augmented latinization of Ramon de la Sagra, *Sagraeus*).

b. *Personal names ending in -e*: These personal names normally latinize with unaugmented stems (*lacei* or *laceanus* from Lace). Names ending in *-e* may be irregularly latinized by changing a silent *-e* (George = *Georgius*) or an unaccented *-e* (Rheelle = *Rheedius*) to *-i*. An accented *-e* (as in Linné) may be changed to the Latin diphthong *-ae-* resulting in the irregular latinization, *Linnaeus*, rather than *Linneus*. A terminal double *-e* is sometimes latinized by dropping the final *-e* hence irregular *Brandegeus* (gen. *brandegei*) from Brandegee, rather than *Brandegeeus* (gen. *brandegeei*).

c. *Personal names ending in -i*: These names appear to regularly latinize with unaugmented stems, as *Orsinus* (gen. *orsinii* from Orsini). However, the terminal *-i* is commonly an inflection in Italian representing genitive singular (of the bear) or a plural collective (of the bears). In this case the inflectional *-i* is dropped in latinization to find the stem which ends in a consonant (Orsin-) which qualifies for stem augmentation, hence *Orsin-i-us* (gen. *orsini-i*). Whether the latinization is viewed as non-augmentation of a stem ending in *-i* or as augmentation of a consonantal stem, the result is the same.

d. *Personal names ending in -o*: These names regularly latinize with unaugmented stems, as *Makinous* (gen. *makinoi*) from Makino. However, such regular latinization associated the vowel *-o-* and the inflections in a way no Roman would have done. There are several irregular latinizations

that botanists have used to avoid this problem. Some French authors have augmented the stem by adding *-e*, e.g., *Onoeus* (gen. *onoei*) based on Ono, as in *Aristolochia onoei*.

Other authors have recognized that the terminal *-o* may have been derived from Latin inflection *-us*, e.g., *Loureirus* (gen. *loureiri*) based on Loureiro, as in *Arisaema loureiri*. A careful author would augment the stem, now ending in a consonant, e.g., *Loureirius* (gen. *loureirii*) as in *Memecylon lurerii* (with other vowel changes).

Many authors have treated personal names ending in *-o* as if they belonged in Third Declension like many nouns ending in *-o* (*sectio* and *mucro* have *sectionis* and *mucronis* as genitive). Thus a name like *Chamisso* can be regarded as Third Declension nominative singular with genitive *chamissonis* (as in *Eryngium chamissionis*). This has an unaugmented stem, and some authors have augmented the Third Declension stem, which ends in a consonant (*-n-*) and shifted to Second Declension to obtain *Nimmonius* (gen. *nimmonii*) by declensional stem augmentation from *Nimmo* (gen. *nimmonis*), as in *Chlorophytum nimmonii*. Adjectival forms derived through Third Declension almost always have augmented stems (an extra *-i-*), thus *Commelina nimmoniana*, *Adesmia berteroniana*, *Aconitum chamissonianum*.

A fourth irregularity used for names ending in *-o* involves phonetics and addition of a consonant. It is practically impossible to pronounce *-o* followed by another vowel (as genitive *-i* or nominative *-us*) without making an extra weak breathing sound represented by the consonant "w" in English. This same sound is represented in Latin by "v" in reformed academic pronunciation, although not in traditional English pronunciation. Adding "w" changes Sato to Satow which ends in a consonant and qualifies for stem augmentation, thus *Satowius* (gen. *satowii*) from Satow for Sato, as *Saussurea satowii* ("satowi").

e. *Personal names ending in -u*: These names regularly latinize without stem augmentation, *Glaziouus* (gen. *glazioui*) from Glaziou. These unlikely combinations of vowels can be avoided by use of phonetics. It is difficult to pronounce a pure "u" sound before another vowel which leads some authors to treat the "u" as consonantal ("w" in English and "v" in Latin). Shifting the terminal *-u* to the Latin consonant "v" qualifies the name for stem augmentation, thus *Glaziovius* (gen. *glaziovii*) from Glaziov for Glaziou. It is by this phonetic irregularity in latinization that the genus *Buchenavia* is named for Buchenau. If one is careful about pronouncing this Latin "v" as English "w" and not as a voiced labio-dental fricative ("v" in English) or an unvoiced labio-dental fricative ("f" in English) one will realize that there is no phonetic difference between either Glaziou and Glaziov or Buchenau and Buchenav.

f. *Personal names ending in -y*: These personal names regularly latinize without stem augmentation, e.g., *Sealyus* (gen. *sealyi*) from Sealy. However, since Romans rarely used *-y* and never for this sound and did use *-i* for the modern sound of *-y*, some botanists shifted the *-y* to *-i*, thus *Mackaius* (gen. *mackaii*) from Mackai for Mackay, as in *Zygopetalum mackaii*. Similar treatment was used to form *Abbevillea kotschiana* from *Kotschius* for Kotschy. It should be noted that some modern names ending in *-y* come directly from Latin names ending in *-ius*, e.g., Gregory from *Gregorius*.

g. *Personal names ending in -er*: In Section 5b it was pointed out that

personal names ending in *-er* regularly form substantive epithets in Second Declension without stem augmentation, thus *engleri* for Engler, rather than *englerii*. It is possible that some authors may have used Third Declension, forming *engleris* or comparable genitives, by analogy with certain Third Declension nouns ending in *-er*, such as *tuber* and *aster* which are *tuberis* and *asteris* in genitive singular. This is not recommended and would be highly unusual.

Personal names ending in *-er* often appear in older literature with irregular, reduced stems, for example: *Acer fabri* named for E. Faber and *Acacia solandri*, named for Solander. These are based on an analogy with the usual treatments accorded Second Declension Latin nouns and adjectives, such as *alexander*, *ager*, and *glaber* which become *alexandri*, *agri* and *glabri* in masculine, genitive, singular. This treatment is not recommended.

7. Justification for proposals

The following proposals are made to give a better organization to Recommendation 73C (Stafleu et al., 1972), to clarify the separate procedures of determining stem augmentation and determining appropriate inflections, and to remove the example, *Verbena hasslerana*.

The present organization of Recommendation 73C has information pertinent to latinization of personal names separated in lettered paragraphs at the beginning and in unlettered paragraphs at the end. My proposals put the sense of these paragraphs into one lettered sequence.

These present Recommendation 73C oversimplifies the very different aspects of stem augmentation and inflection. In the process neither is clearly spelled out nor are all possibilities defined. My proposals separate and clarify patronymic stem augmentation (when to use *-i-* and not), adjectival stem augmentation (the use and modification of *(-an-)*, and inflection (determining the correct Latin case ending). At the same time the examples reintegrate the separate solutions of these three aspects of latinization into total appropriate inflections.

The removal of *Verbena hasslerana* is desirable because, in forming adjectival epithets from personal names ending in *-er*, almost all past and present botanists have used the total inflection of *-ianus* (*-a*, *-um*).

8. PROPOSALS FOR REVISION OF THE CODE

PROPOSAL 30: Delete present paragraph of Article 73 concerned with wrong use of terminations *i*, *ii*, *ae*, *iae*, *anus*, or *ianus* and substitute:

“The wrong use of the terminations, for example *-i*, *-ii*, *-ae*, *-iae*, *-anus*, and *-ianus*, mentioned in Rec. 73C (b-e), is treated as an orthographic error to be corrected.”

PROPOSAL 31: Delete present Introduction to Recommendation 73C, paragraphs (a) through (d) and the last two paragraphs and substitute:

“Modern (for Greek and Latin names see paragraph f.) personal names may be automatically latinized and used to form specific and infraspecific epithets in the following manner (note hyphens are used in examples only to set off the total appropriate inflections):

(a) In forming new epithets based on personal names the original spelling of the personal name should not be modified unless it contains letters foreign to Latin plant names or diacritic signs (see Article 73).

(b) If the personal name ends in a vowel or *-er*, substantive epithets are formed by adding the genitive inflection appropriate to the gender and number of the person(s)

honored (e.g., *glaziou-i* for Mr. Glaziou, *lace-ae* for Mrs. Lace, *hooker-orum* for Mr. & Mrs. Hooker), except when the name ends in *-a* when adding *-e* (singular) or *-rum* (plural) is appropriate (e.g., *triana-e* for Mr. Triana).

c) If the personal name ends in a consonant (except *-er*), substantive epithets are formed by adding *-i-* (stem augmentation) plus the genitive inflection appropriate to the gender and number of the person(s) honored (e.g., *lecard-ii* for Mr. Lecard, *wilson-iae* for Ms. Wilson, *verlot-iorum* for the Verlot brothers, *braun-iarum* for the Braun sisters).

(d) If the personal name ends in a vowel, adjectival epithets are formed by adding *-an-* plus the nominative singular inflection appropriate to the gender of the generic name (e.g., *Cyperus heyne-anus* for Heyne, *Vanda lindley-ana* for Lindley, *Aspidium berterio-anum* for Bertero), except when the personal name ends in *-a* when *-n-* plus the appropriate inflection is added, e.g., *balansa-nus* (m.), *balansa-na* (f.), and *balansa-num* (n.) for Balansa.

(e) If the personal name ends in a consonant (including *-er*), adjectival epithets are formed by adding *-i-* (stem augmentation) plus *-an-* (stem of adjectival suffix) plus the nominative singular inflection appropriate to the gender of the generic name (e.g., *Ranunculus spruner-ianus* for Spruner, *Rosa webb-iana* for Webb, *Desmodium griffith-ianum* for Griffith).

(f) If a personal name is already in Greek or Latin the appropriate Latin genitive to form substantive epithets should be used (e.g., *alexandri* from Alexander, *augusti* from Augustus, *linnaei* from Linnaeus, *martii* from Martius, *beatricis* from Beatrice, *hectoris* from Hector). Treating modern names as if they were in Third Declension should be avoided, e.g., *munronis* from Munro, *richardsonis* from Richardson.

PROPOSAL 32: Reletter present paragraphs of Recommendation 73C from (e) through (i) to (g) through (k).

References

- BARANOV, A. 1968 – Basic Latin for plant taxonomists. *Advancing Frontiers of Plant Science* 21: 1-146 (reprint by Cramer, Lehre, Germany in 1971).
- NICOLSON, D. H. and R. A. BROOKS 1974 – Orthography of names and epithets: stems and compound words. *Taxon* 23: 163-177.
- PESANTE, A. 1961 – About the use of personal names in taxonomical nomenclature. *Taxon* 10: 214-221.
- STAFLEU, F. A. *et al.* 1972 – International Code of Botanical Nomenclature. *Regnum Vegetabile* 82: 1-426.
- STEARNS, W. T. 1966 – *Botanical Latin*. David and Charles (Holdings) Ltd., Newton Abbot, England. 566 pp. (2nd ed. with minor additions, 1973).
- STOLL, N. R. *et al.* 1964 – International Code of Zoological Nomenclature. International Trust for Zoological Nomenclature, London, England, 176 pp.