

Przemysław Pawelec

University of Wrocław

## Pre-structuralist Insights into the Analysis of Voice Assimilation: Szober's Perspective\*

The present paper investigates the consequences of the lack of formalism for the accuracy of description of voice assimilation in *Gramatyka języka polskiego*, a pre-structuralist work by Stanisław Szober. The point is interesting for several reasons. First, Szober's *Gramatyka* was for the most part of the 20th century a standard reference grammar of Polish in Poland and it influenced several generations of students. Second, it is a perfect example of good pre-structuralist scholarship with all the strengths and weaknesses of that approach. On the one hand, it shows deep understanding of phonological processes and the description of Polish voice phenomena therein covers most relevant data known today. On the other hand, it lacks the formalism of later works. The present paper demonstrates that there are problems of analysis in Szober's grammar that result not from the lack of insight but from the lack of formalism, which sheds additional light on the importance of formalism for phonological investigations.

### 1. Bibliographical confusion

Stanisław Szober's *Gramatyka języka polskiego* ('A Grammar of Polish') was a standard reference grammar of Polish for more than sixty years. The first edition came out as three volumes in a book series *Książnica Wychowawcza* (No 10–12) in 1914–1916 (Szober 1914–1916), the second, revised by the author, appeared in 1923 (Szober 1923). Three decades later, in 1953, the third edition appeared, edited by Witold Doroszewski (Szober 1953). It was based on the second edition of 1923, and was reprinted nine more times, each time appearing as a new edition

---

\* I would like to thank Jerzy Rubach for his comments on an earlier version of this paper.

with a subsequent number (but see the comment below). The 12th, most recent, edition came out in 1971 (Szober 1971). It was, in fact, the tenth printing of the 1953 edition.

As Szober's grammar is best known in its post-war version edited by Witold Doroszewski (i.e. Szober 1953), it seems well justified to discuss Szober's analysis of voicing in Polish as it appears there. It is worthy of notice, however, that tracing Stanisław Szober's views in their latest version, or even finding the exact bibliographical facts about various editions after Szober (1923), is somewhat more complicated than might seem from this.

The problem is that there were, in fact, two different third editions of Szober's *Gramatyka języka polskiego*: Szober (1931) and Szober (1953). Szober revised his book twice: in 1921, for the second edition that appeared in 1923 (Szober 1923),<sup>1</sup> and in 1931, for the edition that came out in the same year (Szober 1931).<sup>2</sup> The second edition, Szober (1923), has the subtitle: *wydanie drugie, zmienione i uzupełnione* 'the second, revised and supplemented edition'. The third edition, which appeared in 1931, has the subtitle: *wydanie trzecie, zupełnie zmienione* 'the third, completely revised edition'.

When Witold Doroszewski prepared his edition of Szober's grammar, he based it on the earlier, 1923, edition, completely ignoring the existence of Szober (1931). His version, Szober (1953), appeared with the subtitle: *wydanie trzecie, opracował Witold Doroszewski* 'the third edition, edited by Witold Doroszewski', as if the actual third edition, Szober (1931), revised by the author himself, had never been published. To add to the confusion, Doroszewski's foreword to Szober (1953) refers to Szober (1923) as... the first edition (!),<sup>3</sup> which must puzzle anybody who notices the words: *wydanie trzecie* 'the third edition' in the front page of the very same book and who reads two pages further that Stanisław Szober himself refers to Szober (1923) as the second, revised edition of an earlier book.<sup>4</sup> The confusion may be even greater, if one takes the trouble to compare Szober (1953) with later editions of the same book. In Szober (1971), we find the same

<sup>1</sup> The book is dated by the author as follows: *Warszawa, 12 września 1921 r.* 'Warsaw, 12 September 1921'.

<sup>2</sup> The preface to this edition ends with: *Warszawa, 26 kwietnia 1931 r.* 'Warsaw, 26 April 1931'.

<sup>3</sup> The Foreword by Doroszewski begins as follows: *Ukazujące się obecnie nowe wydanie uniwersyteckiej „Gramatyki języka polskiego” Stanisława Szobera zawiera w stosunku do wydania pierwszego z roku 1923 pewne zmiany.* 'The present new edition of "A Grammar of Polish" by Stanisław Szober contains, as compared **with the first edition of 1923** [emphasis mine – PP], some changes.'

<sup>4</sup> Stanisław Szober's original preface to his 1923 edition, reprinted in Szober (1953) and in all subsequent printings, begins with the following sentence: *„Gramatyka języka polskiego” w tym nowym, drugim wydaniu w stosunku do wydania pierwszego zawiera zmiany dość znaczne i istotne.* "“A Grammar of Polish” in this new, second edition contains rather considerable and significant changes.' (Szober 1953: VII)

Foreword by Witold Doroszewski, however without the word: *pierwszego* ‘first’, omitted<sup>5</sup> in the sentence quoted here in footnote 3, and with the title: *Przedmowa do wydania czwartego* ‘Foreword to the fourth edition’ (sic!). The same book has the subtitle in the front page: *wydanie dwunaste, opracował Witold Doroszewski* ‘the twelfth edition, edited by Witold Doroszewski’, but the publisher’s note after page 390 says: *Wydanie III* ‘the third edition’.<sup>6</sup>

What apparently happened was that Witold Doroszewski, or someone who was taking editorial decisions then, decided to publish in 1953 a revised version of Szober (1923), and not of Szober (1931), which was a later version of the same grammar, reflecting more recent views of the author. Rather than explaining that decision to the reader, or at least informing the reader of it, the editor decided to conceal that, treating Szober (1931) not as a more recent version of the same grammar (i.e. Szober 1923), but as another book on the same subject by the same author, which made it possible to refer to Szober (1923) as the direct predecessor of the edition prepared by Witold Doroszewski. This was, of course, against the facts, and in later printings the numbering was corrected. From the fifth edition on the ‘Foreword’ by Doroszewski was entitled: ‘Foreword to the fourth edition’, which it was – Szober (1953) was the fourth edition of the same book. The confusion did not disappear though. One could reasonably expect the fourth edition to be a revised version of the third rather than some earlier edition, but this was not the case here – the fourth edition (Szober 1953) was a revised version of the second edition (Szober 1923). And although the first sentence of Doroszewski’s Foreword now said: ‘The present new edition [...] has, as compared with the edition of 1923, some changes.’, which clearly indicated that it was based on Szober (1923), it did not say that there had been one more edition in between, while the title ‘Foreword to the fourth edition’ suggested that Szober (1923) must have been the third edition. Also, for some reason the corrections were not extended to the numbering of editions in the front page and in the publisher’s note, which resulted in the situation described above: in Szober (1971) the book is referred to once as the fourth edition (in Doroszewski’s Foreword), once as the twelfth edition (in the front page), and once as the third edition (in the publisher’s note after page 390).

In what follows I am going to discuss some aspects of the presentation of the problem of voice of obstruents in Polish as it appears in Szober (1953). I shall occasionally refer to it as ‘in Szober’s view’ or similarly. It should be remembered, however, that this does not always have to be Stanisław Szober’s ultimate view of the subject, but rather the view present in Szober (1953), i.e. in Stanisław Szober’s

<sup>5</sup> It now says: *Ukazujące się obecnie nowe wydanie uniwersyteckiej „Gramatyki języka polskiego” Stanisława Szobera zawiera w stosunku do wydania z roku 1923 pewne zmiany*. ‘The present new edition of “A Grammar of Polish” by Stanisław Szober has, as compared with the edition of 1923 [emphasis mine – PP], some changes.’ (Szober 1971: V)

<sup>6</sup> The copyright belongs to the new publisher, Państwowe Wydawnictwo Naukowe, and it is dated at 1962.

*Gramatyka języka polskiego* in Witold Doroszewski's version of 1953, based on Szober (1923). For reference, I shall give paragraph numbers as of Szober (1953) (the whole book is divided into numbered paragraphs, running continuously across all chapters). For comparison, however, I shall also, in footnotes, indicate which paragraph numbers correspond to them in Szober (1923) and in Szober (1931), if applicable.

## 2. Sounds or more abstract segments?

The first thing that strikes anybody familiar with even rudiments of modern linguistic metalanguage is that Szober writes simply about sounds (Polish: *głoski*). There are no phonemes or allophones here, not to mention underlying segments, and it seems that Szober simply sees no need to distinguish between units of concrete phonetic and some other, more abstract, level. In fact, no abstract level of any kind is assumed.

At a closer look, however, it turns out that the term 'sound' and the terms referring to particular classes of sounds, like 'consonants', are used throughout the book in more than one sense. On the one hand, they are unequivocally defined in physical terms as the phonetic sounds of speech. As there is no mention of any distinction between the concrete phonetic and some more abstract level, or between physical and non-physical units, it should be concluded that whenever 'consonants' are referred to, they are meant to be the physical sounds of speech (with the minimum of abstractness needed to establish their identity). On the other hand, the term *spółgłoski* 'consonants' is occasionally used in a way which indicates a more abstract understanding of phonological units and cannot be construed as concrete phonetic without being self-contradictory. This is evident from the following passage:

- (1) § 55.<sup>7</sup> [...] Przykłady te wskazują, że spółgłoski dźwięczne przed bezdźwięcznymi wymawiamy bezdźwięcznie i odwrotnie, spółgłoski bezdźwięczne przed dźwięcznymi wymawiamy dźwięcznie. Zjawisko to nazywamy upodobnieniem spółgłosek, a to dlatego, że jedne z nich przybierając cechę właściwą innym, stają się do nich podobne, czyli upodabniają się do nich.

§ 55. [...] These examples indicate that voiced consonants before voiceless ones are pronounced as voiceless, and conversely, voiceless consonants before voiced ones are pronounced as voiced. This phenomenon is called assimilation of consonants, because some of them, taking on a feature that properly belongs to others, become more similar to them, that is they assimilate to them.

At first view it might seem that there is nothing wrong with the statement in (1): it presents a well-known process, giving it the appropriate name (assimilation) and describing its mechanism (taking on a feature of a neighbouring sound),

<sup>7</sup> § 60 in Szober (1923: 29). Identical in content and form, except for insignificant differences in the use of grammatical forms (*dźwięcznymi, bezdźwięcznymi, upodobniają się*).

scope (affects some consonants adjacent to other consonants with the opposite value for voice), and direction (regressive: ‘before’). The problem is, however, that it does not agree with Szober’s explicit model of phonology. The theoretical framework of Szober (1953) does not allow for abstract segments, only surface phonetic forms can be compared, and the only legitimate way of referring to the way in which they pattern is by means of statements about their distribution: in some positions voiced sounds alternate with voiceless ones. In this framework, the assertion that ‘voiced consonants [...] **are pronounced as** voiceless [emphasis mine – PP]’ is meaningless. Surely, if they ‘are pronounced as voiceless’, then they are simply voiceless consonants. Where only sounds, and no abstract units, are allowed, there is no sense in which a consonant that is pronounced as voiceless could be anything less than a voiceless consonant. ‘A voiced consonant which is pronounced as voiceless’ in this one-level concrete-phonetic model is a self-contradictory term.

It would be different if the framework of Szober (1953) admitted derivation. Then, the voice assimilation rule just quoted could be interpreted as follows: an underlyingly (morphologically motivated) voiced consonant is devoiced (‘pronounced as voiceless’) before a voiceless one. This, however, is obviously no part of the view of grammar presented in Szober’s book and to attribute it to Szober would be an anachronism.

It is worthy of notice that on a different occasion Szober avoids such pitfalls, stating clearly that in certain position sounds alternate, rather than ‘are pronounced as’ something else. Here is part (2b) of § 54, devoted to final devoicing.

- (2) § 54. [...] 2) b) Do bardzo ważnych właściwości języka polskiego należy zastępowanie na końcu wyrazów przed pauzą spółgłosek dźwięcznych odpowiednimi bezdźwięcznymi, np. *żłób* wymawiamy [żłup];<sup>8</sup> *staw* wymawiamy [staf]; *bród* wym. [brut], *wóz* wym. [wus]; *pieniądz* wym. [p’eñɔc]; *straż* wym. [straś]; *weź* wym. [weś]; *siedź* wym. [šeć]; *stóg* wym. [stuk].

§ 54. [...] 2) b) Among very important features of Polish there is replacing voiced consonants at the end of words before a pause with the corresponding voiceless ones, so, e.g., *żłób* is pronounced as [żłup]; *staw* as [staf]; *bród* as [brut], *wóz* as [wus]; *pieniądz* as [p’eñɔc]; *straż* as [straś]; *weź* as [weś]; *siedź* as [šeć]; *stóg* as [stuk].<sup>9</sup>

The phrase: ‘replacing voiced consonants at the end of words before a pause with the corresponding voiceless ones’ is unquestionably precise and consistent with the view of the nature of the phonological system of Polish assumed in Szober’s grammar.

<sup>8</sup> In quotes from Szober, square brackets include Szober’s original transcription.

<sup>9</sup> It is § 59 in Szober (1923: 28), identical with § 32 in Szober (1931: 43), the same as § 54 in Szober (1953), except for the use of an older grammatical form of *bezdźwięcznymi* ‘voiceless’: *bezdźwięcznemi*. In Szober (1914: 91) the text is also almost the same, but instead of *dźwięcznych*, *bezdźwięcznymi* there are older terms: *głosowych*, *niegłosowemi*. The paragraph number is 150: *Do bardzo ważnych właściwości języka polskiego należy zastępowanie na końcu wyrazów przed pauzą spółgłosek głosowych odpowiedniami niegłosowemi*. (Szober 1914: 91; § 150)

Another striking feature of Szober's *Gramatyka* is the absence of any formalism. Phonological processes are presented in literary prose. This method of description has its consequences: the generalizations are imprecise and leave much to the understanding of the reader. The following sections bring two examples that illustrate that.

### 3. The consequences of the lack of formalism 1: rule content

The first example is fairly trivial. The statement in § 55 (quoted in (1) above), as a description of a general, obligatory process, is simply not true. There are literally thousands of words in Polish where voiced consonants before voiceless ones remain voiced – provided they are sonorants. On the other hand, there is obligatory voice assimilation, but for obstruents only. Thus, the statement in § 55 would be true if it referred to voiced obstruents (*spółgłoski zamknięte* ‘closed consonants’ in Szober’s terminology) rather than voiced consonants.

It is evident that these facts are known to the author of *Gramatyka*, and in one of the next passages, § 57, different behaviour of consonantal sonorants is described.

- (3) § 57.<sup>10</sup> Niekiedy zdarzają się grupy spółgłoskowe niejednolite, mieszane, w których obok spółgłosek bezdźwięcznych wymawiamy spółgłoski dźwięczne, np. *éma, lampa, tnę, szklanka, miotła, pałka, ślimak, wielki, tratwa, tarcica*.

Z przykładów tych widać, że połączenia spółgłosek bezdźwięcznych z dźwięcznymi są możliwe wtedy, kiedy w skład grup spółgłoskowych wchodzi spółgłoski półotwarte (*m, m', n, n', r, l, ł*). Spółgłoski te są dźwięczne, łącząc się jednak z bezdźwięcznymi, nie wywołują upodobnienia i wytwarzają w ten sposób grupy spółgłoskowe mieszane.

§ 57. Sometimes there occur heterogeneous, mixed, groups, where next to voiceless consonants we pronounce voiced consonants, e.g., *éma, lampa, tnę, szklanka, miotła, pałka, ślimak, wielki, tratwa, tarcica*.

We can see from these examples that combinations of voiceless and voiced consonants are possible when in consonant groups there are half-open consonants [i.e. sonorants – PP] (*m, m', n, n', r, l, ł*). These consonants are voiced, but when they combine with voiceless ones they do not trigger assimilation and thus they produce mixed consonant groups.

Apparently, the intended interpretation is as follows: § 55 is true, but with the exception of the combinations described in § 57, which says that it is possible for two consonants not to agree in voicing, as long as one of them is a sonorant (*spółgłoska otwarta* ‘an open consonant’). However, after the rule in § 57 is added, the original rule in § 55 is not amended, and what is more, the status of the new

<sup>10</sup> It is § 62 in Szober (1923: 29), almost identical with § 57 in Szober (1953). In Szober (1931), there is a different text.



rule is not fully clarified, as the observation is made hesitantly: ‘sometimes there occur...’. It is not explained whether ‘sometimes’ and ‘occur’ means that there is an area where the rule in § 55 does not apply, and is replaced by the rule in § 57, or whether the statement in § 57 merely indicates a set of potential exceptions that **may** but do not **have to** behave as described. With the wording of the rules in § 55 and § 57 as it is, both interpretations are possible, although only the former is compatible with the data: sonorants are not regularly devoiced in two-term clusters with voiceless obstruents in Polish, unless they are extrasyllabic, and there is no question of free variation or optionality in this respect. Nor do they cause voicing of the neighbouring voiceless obstruents.<sup>11</sup> The rules in § 55 and § 57 turn out not to be precise enough to eliminate this ambiguity.

Careful reading reveals also another ambiguity in the generalization in § 57. It is contained in the following passage: ‘We can see from these examples that combinations of voiceless and voiced consonants are possible when in consonant groups there are half-open consonants [i.e., sonorants – PP].’ As it is, the rule can be interpreted in two ways:

- (4) a. half-open consonants (and only they) may remain voiced in a cluster with a voiceless consonant;
- b. the presence of a half-open consonant in a consonant cluster entirely **suspends** the rule of voice agreement of obstruents expressed in § 55, literally: ‘combinations of voiceless and voiced consonants **are possible when in consonant groups there are half-open consonants**’).

The latter interpretation means that according to Szober (1953) the following is true of the phonological system of Polish:

- (5) a. It allows for combinations of two obstruents with the same voice, e.g.:  
ps- *psychologia* ‘psychology’, st- *stać* ‘stand’, zd- *zdać* ‘pass’  
fsp- *wspaniały* ‘splendid’, wzg- *wzgórze* ‘hill’
- b. It does not allow for combinations of two obstruents with different voice, e.g.:  
\*bs-, \*sd-, \*-bk-, etc.:
- c. It allows for combinations of a voiceless obstruent and a consonantal sonorant, where the latter remains voiced, e.g.:  
kr- *kran* ‘tap’, pr- *prać* ‘wash’, sm- *smutny* ‘sad’, pl- *plus* ‘plus’, -mk- *klamka* ‘doorknob’, -rk- *marka* ‘brand’  
skl- *sklep* ‘shop’, -skr- *iskra* ‘spark’
- d. It allows for three-term consonant clusters of two obstruents and a sonorant where the obstruents are adjacent and they differ in voice, e.g.:  
sgl-, zkl-, -zkr-, -sgr-

<sup>11</sup> With the exception of sandhi voicing in the Cracow dialect.

However, only the first three points, (5a–c), are correct. Point (5d) is incorrect, although it literally agrees with the generalization in § 57: these *are* consonant groups that contain a half-open consonant (i.e. a sonorant). In the wording of the generalization in § 57, the mere presence of a consonantal sonorant in a cluster should be sufficient to make ‘combinations of voiceless and voiced consonants [...] possible’.

#### 4. The consequences of the lack of formalism 2: rule interaction

Another example of the consequences of the lack of formalism is connected with rule interaction. Part (2b) of § 54 in Szober (1953), quoted in (2) above, says that at the end of words, before a pause, voiced consonants are replaced by the corresponding voiceless ones. Let us treat it as a prose expression of a formal phonological rule that I shall call Szober’s Final Devoicing (2). Paragraph 59 (§ 59), in turn, says:

- (6) § 59. [...] Grupy spółgłoskowe bywają w języku polskim dwojaki: 1) jednolite, tj. wymawiane od początku do końca dźwięcznie albo bezdźwięcznie, i 2) mieszane, składające się ze spółgłosek dźwięcznych i bezdźwięcznych.

Grupy mieszane zdarzają się tylko wtedy, kiedy w grupie spółgłoskowej obok spółgłosek bezdźwięcznych znajduje się jedna ze spółgłosek półotwartych (*m, m', n, ń, r, l, ł*), np. *chmiel, wartki*. We wszystkich innych wypadkach mamy grupy jednolite, a dźwięczność ich lub bezdźwięczność zależy od spółgłoski ostatniej albo też przedostatniej w tym mianowicie wypadku, kiedy spółgłoską końcową jest *w* lub *rz*. Jeżeli ostatnia lub w pewnych wyszczególnionych wypadkach przedostatnia spółgłoska jest dźwięczna, wówczas cała grupa spółgłoskowa jest również dźwięczna; jeżeli zaś ostatnia lub przedostatnia spółgłoska jest bezdźwięczna, wówczas całą grupę spółgłoskową wymawiamy również bezdźwięcznie. Np. *babka* – wymawiamy [*bapka*], *prośba* – wymawiamy [*proźba*], *stworzenie* – wymawiamy [*stfoźeńe*].

§ 59. [...] Consonant groups in Polish are of two kinds: 1) homogeneous, i.e. pronounced from the beginning to end as voiced or voiceless, and 2) mixed, made up of voiced and voiceless consonants.

Mixed groups happen only when in a consonant group next to voiceless consonants there is one of half-open consonants [i.e. sonorants – PP] (*m, m', n, ń, r, l, ł*), e.g. *chmiel, wartki*. In all other cases we have homogeneous groups, which are voiced or voiceless depending on the last consonant, or the last but one, namely, when the last consonant is *w* or *rz*. If the last or in some particular cases last but one consonant is voiced, then the whole consonant group is also voiced; if the last or in some particular cases last but one consonant is voiceless, then the whole consonant group is also pronounced as voiceless. E.g. *babka* is pronounced as [*bapka*], *prośba* as [*proźba*], *stworzenie* as [*stfoźeńe*].

This passage includes several observations that can be named collectively Szober’s Voice Agreement Generalizations. They are listed below.



## (7) Szober's Voice Agreement Generalizations

- a. Groups of obstruents are homogeneous with respect to voicing.
- b. Voicing of a group of obstruents depends on the voicing of the last consonant (unless it is *w* or *rz*).
- c. If the last consonant is *w* or *rz*, the voicing of the group depends on the last but one consonant.

The generalizations included in (7) raise a number of doubts, both about their exact meaning and about their interaction with Szober's Final Devoicing (2). They are discussed separately below. For convenience, I refer to them by distinct names.

The statement in (7a) can be interpreted, in terms of modern theories, as a condition or a constraint rather than a phonological rule. Let us call it Szober's Voice Agreement Condition (7a). It states that clusters of obstruents agree in voicing, without specifying how this is achieved.

The assertions in (7b–c) can be interpreted, depending on the kind of modern theory assumed, either as rules or as constraints. Let us call them: Szober's Voice Agreement Regressive, for (7b), and Szober's Voice Agreement Pre-*w/rz*, for (7c).

Szober's Voice Agreement Regressive (7b) says that voicing of a group of obstruents depends on the voicing of the last consonant. Again, as in the case of the statement in § 55, quoted in (1) and discussed above, it only makes sense if the author refers to some units more abstract than 'sounds'. In a one-level concrete-phonetic model, when a cluster of obstruents is homogeneous with respect to voicing, the only thing that can be said about the voicing of any consonant in the cluster is that it is the same as that of any other obstruent in the group (which makes it equivalent to the statement in 7a). There is no derivation, so there are no 'stages' and no segment in the group can be viewed as the 'initiator' of the agreements. Saying that the voicing of a group **depends** on the voicing of the last consonant presupposes some kind of a starting point for a process going in stages, as in generative phonological derivation, or a point of reference, as in the evaluation procedure in Optimality Theory. In either case, some abstract units must be involved. Nowhere in Szober's grammar is there an explanation what kind of units these might be.

The formulation in (7c), Szober's Voice Agreement Pre-*w/rz* (if the last consonant is *w* or *rz*, the voicing of the group depends on the last but one consonant), calls for four kinds of criticism: first, it is not clear what is meant by '*w*' and '*rz*' in the rule; second, the rule presupposes some kind of hidden derivationalism in a non-derivational model; third, there are questions unanswered about the direction of its influence (regressive, progressive, both?); fourth, when interaction of (7c) with Szober's Voice Agreement Regressive (7b) and Szober's Final Devoicing (2) is considered, the rule as formulated in Szober (1953) yields incorrect results.

The first question is how to interpret ‘*w*’ and ‘*rz*’ in (7c). It is not clear whether they designate sounds or letters. It may seem an unusual problem to consider, as by modern standards it does not make sense for a phonological rule to refer to letters rather than some phonological units (sounds, segments, syllables, other suprasegmental constituents). However, on closer inspection it becomes clear that Szober does mean letters rather than sounds. Given that ‘*w*’ in Szober’s notation might mean either the letter <*w*> or the sound [v], the symbol ‘*rz*’ can only refer to a combination of letters, i.e. to the digraph <*rz*>. The reason is that in Polish there are two graphemes with the same phonetic value [ʒ] / [ʃ]: <*rz*> and <*ż*>. Both the digraph <*rz*> and the letter <*ż*> are pronounced, depending on the context, as either [ʒ] or [ʃ] (which in Szober’s phonetic notation is rendered as *z* and *ʃ*), and there is no pronunciation difference between them – in similar contexts they are always pronounced the same, regardless of which grapheme is used. So if Szober refers to *rz*, he cannot be referring to some sound characteristic of the pronunciation of that digraph alone, as there is no such sound, unique to <*rz*>, to the exclusion of <*ż*>. He must be referring to the digraph itself.

This is a most surprising conclusion: even in Szober’s framework it is hard to justify the claim that there are phonological phenomena which are conditioned by the occurrence of a particular **grapheme** <*rz*>. After all, Szober describes the speech, not writing, of native speakers of Polish.

Apparently, Szober believes that the difference between <*rz*> and <*ż*> in the spelling is relevant for phonology, which can only be justified on the assumption that although *rz* and *ż* are pronounced the same, at some abstract level they have different representations. Then the difference in spelling is not just a matter of convention, but it reflects a difference in what would now be called underlying representation, and the clause ‘when the last consonant is *w* or *rz*’ means, e.g., in the case of *rz*, ‘when the last consonant has the underlying representation characteristic of the underlying representation of <*rz*>’. This, however, is only possible if some level of abstract representation is assumed, and again, nowhere in Szober’s book is there a statement that such abstract interpretation should be applied to his rules.

The second piece of criticism against Szober’s Voice Agreement Pre-*w/rz* (7c) is similar to the one raised against the formulation in (7b). Giving the last but one consonant some priority in determining the voice characteristic of the other consonant (or consonants) in a cluster presupposes some kind of serialism: the other consonants, whose voicing is determined by the voicing of the last but one consonant, have some voice characteristic before the influence has been exerted and some other voice characteristic after such ‘determination’ has taken place. This may seem all too natural in derivational models, but it is much more difficult to incorporate into a one-level concrete-phonetic model of the phonological system of Szober (1953).

A further question arises about the directionality of the influence. The rule says: ‘if the last consonant is *w* or *rz*, the voicing of the group depends on the last

but one consonant'. This means that as far as the relationship between the voice of *w* or *rz* as the last consonant and the voice of the last but one consonant in a cluster is concerned, the influence is from left to right, so at first glance it looks like a rule (or constraint) of progressive assimilation, a kind of Szober's Voice Agreement Progressive, to complement Szober's Voice Agreement Regressive (7b). Careful reading shows, however, that the influence must be bidirectional. In a two-term cluster, the influence will be progressive, from the last but one consonant to the last consonant. In a longer, three-term, or four-term cluster, however, the influence will be both progressive, from the last but one consonant to the last consonant, and regressive, from the last but one consonant to the consonant preceding it, in accordance with the statement that 'the voicing of the group depends on the last but one consonant'. This makes Szober's Voice Agreement Pre-*w/rz* (7c) very different from the rules that are usually postulated in phonological analyses. As it applies first to the right and then to the left, it is also difficult to describe its target.

The problem of handling clusters longer than two consonants can be demonstrated on the example of the word *wychodźstwo* [vixɔtʰstfɔ] 'emigration'. Below is a derivation of *wychodźstwo*, showing the need for Szober's Voice Agreement Pre-*w/rz* (7c) to apply in both directions. The morphologically motivated form /vixɔdʒstɔ/ is justified by alternations: [tʰ]/[dʒ] in *wychodźstwo* [vixɔtʰstfɔ] vs. *wychodzić* [vixɔdʒitʰ] 'to leave' and [f]/[v] in *państwo* [-tfɔ] 'state' vs. *państwko* [-tɛfkɔ] (dimin.) vs. *państwewek* [-tɛvek] (dimin. gen. pl.). It is also consistent with Szober's practice to treat the orthographic form as the basic one.

(8)	wychodźstwo [vixɔtʰstfɔ]	
	'emigration'	
morphologically motivated form:	vixɔdʒstɔ	
	vixɔdʒstfɔ	Szober's Voice Agreement Pre- <i>w/rz</i> (7c) Progressive
	—	Szober's Voice Agreement Pre- <i>w/rz</i> (7c) Regressive (vacuously)
	vixɔtʰstfɔ	Szober's Voice Agreement Pre- <i>w/rz</i> (7c) Regressive
phonetic form:	vixɔtʰstfɔ	

The wording of the rule allows also for two other interpretations: one is that in a three-term or four-term cluster of obstruents ending with *w* or *rz*, the assimilation is first regressive, from the last but one consonant to the one preceding it, and then progressive, from the last but one consonant to the last consonant. Another is that there is a kind of simultaneous bidirectional one-step spreading, from the second to both the first and the third element at the same time. All three interpretations are consistent with what the rule says ('the voicing of the group depends on the last but one consonant'), which shows how much it leaves to guess as to what exactly it purports to do.

For the sake of completeness it should be added that a fourth interpretation is also possible, which is perhaps the closest to what the author had in mind. On this reading, in clusters of more than two consonants, Szober's Voice Agreement Pre-*w/rz* (7c) applies only once: to the last two segments in a cluster. Then Szober's Voice Agreement Regressive (7b) comes in, making sure that the consonant, or consonants, preceding the last but one consonant get the same voicing as that consonant. This solution, however, first, involves a special limitation of the scope of application of Szober's Voice Agreement Pre-*w/rz* (7c) and, second, assumes some ordering of rules: Szober's Voice Agreement Pre-*w/rz* (7c) before Szober's Voice Agreement Regressive (7b). There is no mention of such conditions or ordering in Szober's grammar. What is more, the wording of this rule excludes that: as I explain further, Szober's Voice Agreement Pre-*w/rz* (7c) is so formulated that it entirely suspends the operation of Szober's Voice Agreement Regressive (7b).

The fourth question arises when possible interactions between Szober's Voice Agreement Pre-*w/rz* (7c) and Szober's Final Devoicing (2) are examined. Assuming for a moment that there are no problems with incorporating some kind of derivation into Szober's model, the analysis works as follows: in the specified context, morphologically expected [ʒ] (spelt *rz*) is pronounced as [ʃ], and morphologically expected [v] is pronounced as [f]. This generalization is exemplified by: *mokro* 'wet' vs. *mokrzej* [kʃ] 'wetter' and *bitewny* 'battle, adj.' vs. *bitwa* [tf] 'battle'. In such cases, it is the voice of the penultimate consonant that counts, not that of the last consonant, and Szober's Voice Agreement Pre-*w/rz* (7c) produces a homogeneously voiceless cluster: hence [kʃ] rather than [gʒ] in *mokrzej* and [tf] rather than [dv] in *bitwa*. The same rule results in a voiced cluster, if the consonant before *rz* or *w* is voiced, e.g., *biodro* 'hip' – *biodrze* [-dʒɛ] (loc.) or *nazewnictwo* [-zɛv-] 'terminology' – *nazwa* [-zv-] 'name'. However, in word-final position, the predictions of Szober's Voice Agreement Pre-*w/rz* (7c) are at variance with the facts, which is shown by the following pairs of examples:

- |     |                                    |  |
|-----|------------------------------------|--|
| (9) | <i>nazwa</i> [zv] 'name'           | <i>nazw</i> [sf] (gen. pl.)              |
|     | <i>odezwa</i> [zv] 'appeal'        | <i>odezw</i> [sf] (gen. pl.)             |
|     | <i>pigwa</i> [gv] 'quince'         | <i>pigw</i> [kf] (gen. pl.)              |
|     | <i>babrać się</i> [br] 'to fumble' | <i>babrz</i> [pʃ] (imp.)                 |
|     | <i>żebrąć</i> [br] 'to beg'        | <i>żebrz</i> [pʃ] (imp.)                 |
|     | <i>bazgrać</i> [zgr] 'to scribble' | <i>bazgrz</i> [skʃ] (imp.) <sup>12</sup> |

According to Szober's Voice Agreement Pre-*w/rz* (7c), the words on the right should be pronounced with final [zv], [gv], [bʒ] and [zgʒ], respectively: the voice of the final consonant does not count, the [z] in *nazw*, *odezw*, the [g] in *pigw*,

<sup>12</sup> Sometimes, alternative imperative forms are used, especially in colloquial speech. However, the prescriptive *Nowy słownik poprawnej polszczyzny PWN* (Markowski 1999) gives the following recommendations for these words: '*babrz*, or: *babraj*' (p. 40); '*bazgrz*, colloquially: *bazgraj*' (p. 48); '*żebrz* (not: *zebraj*, not: *zebrzyj*)' (p. 1384).

the [b] in *żebrz*, the second [b] in *babrz* and the [g] in *bazgrz* are voiced, so the clusters should be homogeneously voiced. This, however, is not true, they are pronounced as [sf], [kf], [pš] and [skš].

In order to obtain the correct result, it is Szober's Voice Agreement Regressive (7b) rather than Szober's Voice Agreement Pre-*w/rz* (7c) that must apply, and only after Szober's Final Devoicing (2) has applied, so the rules must be ordered. The derivation in (10) exemplifies this idea.

(10)	nazw [sf] 'name' (gen. pl.)	(nie) babrz się [pš] '(don't) fumble'	
morphologically motivated forms:	/nazv/ nazf  nasf	/babž/ babš  bapš	Szober's Final Devoicing (2) Szober's Voice Agr. Regressive (7b)
phonetic form:	nasf	bapš	

(Notice, however, that such rule ordering is not part of the system presented in Szober 1953). What is more, with the wording of the rules as it is, even ordering Szober's Final Devoicing (2) before Szober's Voice Agreement Regressive (7b) does not guarantee the right result, because the latter will not have a chance to apply. If all rules are applied exactly as presented in Szober (1953), the result is as follows.

- (11)
- First, the morphologically motivated forms are /nazv/ and /babž/.
  - Second, final obstruents are devoiced by Szober's Final Devoicing (2), deriving /nazf/ and /babš/.
  - Third, the rule of Szober's Voice Agreement Pre-*w/rz* (7c) applies; it says that the voicing of the last consonant does not count, it is the last but one consonant that determines the voice of the whole group. The second consonant from the end is [z] for /nazf/ and /b/ for /babš/, so the final clusters become uniformly voiced: \*/nazv/ and \*/babž/.

Summing up, Szober's Voice Agreement Regressive (7b) and Szober's Voice Agreement Pre-*w/rz* (7c) are so formulated that Szober's Voice Agreement Pre-*w/rz* (7c) totally **suspends** the application of Szober's Voice Agreement Regressive (7b): according to the generalizations in (7), the voicing of a group of obstruents depends on the voicing of the last consonant **unless** it is *w* or *rz*; if the last consonant is *w* or *rz*, the voicing of the group depends on the last but one consonant. This mode of application is displayed in (12):

(12)	nazw [sf] 'name' (gen. pl.)	(nie) babrz się [pš] '(don't) fumble'	
morphologically motivated forms:	/nazv/ nazf	/babž/ babš	Szober's Final Devoicing (2)
	BLOCKED	BLOCKED	Szober's Voice Agree- ment Regressive (7b)
	nazv	babž	Szober's Voice Agree- ment Pre-w/rz (7c)
phonetic form:	*nazv	*babž	

Translating Szober's rules into generative terms shows two problems left unsolved in the rules in Szober (1953). First, Szober's grammar says nothing about which of the two rules, Szober's Final Devoicing (2) or Szober's Voice Agreement Pre-*w/rz* (7c), should apply when a cluster ending in *w* or *rz* is word-final. Second, the rule states that Szober's Voice Agreement Regressive (7b) is completely 'switched off' when there is a context for Szober's Voice Agreement Pre-*w/rz* (7c) to apply, i.e. when the last consonant is *w* or *rz*. This too turns out to be incorrect.

What is necessary for these rules to work is such mode of rule application by which even if regularly Szober's Voice Agreement Pre-*w/rz* (7c) turns Szober's Voice Agreement Regressive (7b) off, in the context before a pause Szober's Voice Agreement Pre-*w/rz* (7c) is rendered inactive by Szober's Final Devoicing (2), after which Szober's Voice Agreement Regressive (7b) is free to apply. This could be done either by blocking Szober's Voice Agreement Pre-*w/rz* (7c) completely from applying in word-final position, or by reducing it to its first, progressive stage and ordering it before Szober's Final Devoicing (2), which in turn should be ordered before Szober's Voice Agreement Regressive (7b). The two options are demonstrated in (13) and (14) below.

(13)	nazw [sf] 'name' (gen. pl.)	(nie) babrz się [pš] '(don't) fumble'	
morphologically motivated forms:	/nazv/ nazf	/babž/ BLOCKED babš	Szober's Voice Agree- ment Pre- <i>w/rz</i> (7c)
	nasf	bapš	Szober's Final Devoic- ing (2)
			Szober's Voice Agree- ment Regressive (7b)
phonetic form:	nasf	bapš	



In (13) Szober's Voice Agreement Pre-*w/rz* (7c) is not allowed to apply word-finally. The obstruents in the cluster are devoiced, in turn, by Szober's Final Devoicing (2) and Szober's Voice Agreement Regressive (7b). In (14) the other option is presented.

(14)	nazw [sf] 'name' (gen. pl.)	(nie) babrz się [pš] '(don't) fumble'	
morphologically motivated forms:	/nazv/ nazv	/babž babž	Szober's Voice Agreement Pre- <i>w/rz</i> (7c) (vacuously)
	nazf	babš	Szober's Final Devoicing (2)
	nasf	bapš	Szober's Voice Agreement Regressive (7b)
phonetic form:	nasf	bapš	

In (14) Szober's Voice Agreement Pre-*w/rz* (7c) applies, vacuously, to the final cluster, yielding two voiced obstruents. These are devoiced, in turn, by Szober's Final Devoicing (2) and Szober's Voice Agreement Regressive (7b), as in (13) above.

Such limitation of Szober's Voice Agreement Pre-*w/rz* (7c) to one-step application seems less arbitrary than blocking it, as in (13), and it agrees with the idea of rule ordering: if Szober's Voice Agreement Pre-*w/rz* (7c) is ordered before both Szober's Final Devoicing (2) and Szober's Voice Agreement Regressive (7b), it does not affect the voice of word-final consonant clusters, while still determining the voicing of consonant clusters in other positions.

Needless to say, such multi-stage formalized derivation is not predicted by the system in Szober (1953).

## 5. Conclusion

Szober's grammar was first published more than ninety years ago. Nevertheless, it is still worth studying, as reviewing it can lead to a better understanding of the importance of formalism for phonological theory. It would be unfair to apply the modern standards to this time-honoured monument of descriptive linguistics, criticizing it for not meeting the requirements of all the methodological rigours that have become part of phonological study during the long period of time after

the book came out. It can, however, be shown how the lack of formalism makes stating generalizations difficult. The author had genuine insight into the working of the phonological system of Polish. Yet, without a formal apparatus, unknown in his times, a number of his generalizations turn out to be inaccurate, or at least imprecise.

The prose style of the descriptions in Szober (1953) is often not sufficiently precise and under close scrutiny leads to conclusions that are not only counterfactual, but in all likelihood against the intention of the author. When rules are so imprecise, it is also hard, if not impossible, to test their validity. As could be seen in the texts analysed, using vague quantifying expressions ('sometimes', 'there occur'), stating rules without taking into account rule interaction, not distinguishing clearly between sounds, abstract segments and letters, results in a grammar where on the one hand, every statement is possible and on the other, the validity of many generalizations is contingent on the ability of the reader to guess what their intended meaning was.

Needless to say, the aim of this paper has not been to show that the author of Szober (1953) had insufficient knowledge of Polish phonology. On the contrary, it was meant to demonstrate that without the discipline of formalism, even an author of such deep understanding of phonology and phonological processes as Stanisław Szober did not avoid the problems resulting from the inherent deficiencies of the way of expressing phonological observations that was available when he was writing his *Gramatyka języka polskiego*.

## References

- Szober, S. 1914–1916. *Gramatyka języka polskiego. Część pierwsza* (Part I): 1914 (series: *Książnica Wychowawcza* No 10). *Część druga* (Part II): 1916 (series: *Książnica Wychowawcza* No 11). *Część trzecia* (Part III): 1915 (series: *Książnica Wychowawcza* No 12). Warszawa: Wydane Staraniem Stowarzyszenia Nauczycielstwa Polskiego, Skład Główny w Księgarni Gebethnera i Wolffa.
- Szober, S. 1923. *Gramatyka języka polskiego. Wydanie drugie, zmienione i uzupełnione*. (The second, revised and supplemented edition.) Lwów–Warszawa: Książnica Polska Tow. Nauczycieli Szkół Wyższych.
- Szober, S. 1931. *Gramatyka języka polskiego. Wydanie trzecie, zupełnie zmienione*. (The third, completely revised edition.) *Część II: Głosownia: fizjologiczna, psychologiczna, funkcjonalna i historyczna*. (Part II: Phonology: physiological, psychological, functional and historical.) Warszawa: Wydawnictwo M. Arcta.
- Szober, S. 1953. *Gramatyka języka polskiego. Wydanie trzecie, opracował Witold Doroszewski*. (The third edition, edited by Witold Doroszewski.) Warszawa: Nasza Księgarnia.
- Szober, S. 1971. *Gramatyka języka polskiego. Wydanie dwunaste, opracował Witold Doroszewski*. (The twelfth edition, edited by Witold Doroszewski.) Warszawa: Państwowe Wydawnictwo Naukowe.