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Towards a Theory of Tense in Tunisian Arabic
(A Preliminary Approximation)[1]

Abstract

The tense system operating within the category of verb in Tunisian Arabic (*TA*) has not been comprehensively described yet. The main aim of this article is to draft a theory of tense, also applicable in the description of this dialect. Within this theory the definition of the family of tenses will be formulated, in terms of homotensivity. In light of this definition the family of tenses for *TA* appears as a classification of the family of verb paradigms, induced by the relation of homotensivity. This latter family results, in turn, from the prior classification of the family of verb forms, caused by the relation of homoparadigmaticity. Finally, a tense emerges as a class of verb paradigms grouped together in accordance with the postulates forming the definition of homotensivity. The necessity of further tensological research grounded in the proposed theoretical principles is suggested.

Keywords: tense, verb form, verb paradigm, homotensivity, family of tenses, Tunisian Arabic

1. Introductory Remarks

The purpose of this article is to inquire rather tentatively into some subsystems operating within the verb of Tunisian Arabic (henceforth *TA*). Particular attention will be devoted to the tense system, especially to some tense-theoretical principles and their application to the analysis of language material of *TA*. The tense reality of this dialect, to the best of the authors' knowledge, has not been a subject of investigation as of yet.

The Tunisian communicative community is dialectally diversified. Six main dialect communities can be distinguished. However, there also emerges a kind of pandialectal community tending to create a supradialectal means of communication. Of course, this supradialectal variety draws upon Tunisian dialect resources, but it prefers however certain forms over others available. In our article, this supradialectal variety will be referred to, for convenience, as Tunisian Arabic, and symbolized by *TA*. Certainly, a more adequate term would be Pan-Tunisian (supradialectal) Arabic (cf. Oueslati 2015: 19f.).

Expressing ourselves more clearly we could even say that the main intention of our inquiry is to briefly draft a theory of tense both in a general and particular perspective. The former would apply to the tense reality obtaining in all languages, whereas the latter, based on the former, would account for tense specifics of a definite language or dialect which in our case will be *TA*. Thus, four distinct components, general and particular as well as theoretical and practical will mutually interact and complement each other in the approach to tense advanced subsequently for consideration.

The subsequent tense-theoretical line of reasoning will thus ultimately result in a proposal of a definition specifying conditions ensuring the establishment of a family of tenses for a language. Tense is usually viewed as an inflectional category of the verb, whereby it belongs to the domain of morphology. Tense semantics is mainly related to time, as is usually assumed (cf. Comrie 1985: 9; 1999: 363ff.). In our view, however, an adequate definition of tense has not yet been offered. The conception of tense, as adhered to in this article arises from considerations rather alien to the discussion conducted heretofore within theoretical tensology, if we are permitted to use such a term as a designation for the subdiscipline exploring, describing, and explaining tense reality.

Leveling the ground for the theoretical reconstruction of the concept and ontological status of tense, the clarification of some methodological points seems to be necessary. Tense or, more precisely, a family of tenses, is conceived of as a set of sets of verb paradigms sharing certain definite properties. And, a paradigm is just a set of verb forms that inflect for certain definite semantic dimensions (parameters), and are indistinguishable for certain others. Finally, a verb form is a set of actual verb forms which as individual lingual objects are susceptible of entering the relations of homophony and homosignification with each other.

As can be rightly inferred, we shall avail ourselves of objects representing various levels of abstraction. In consequence, the road of our enquiry leads from the actual verb forms through such theoretical constructs as verb forms, verb paradigms, reaches tenses, and will touch even tempora. Verb forms are thus objects of the first level of abstraction, verb paradigms of the second level, and tenses of the third.

In order to avoid possible misunderstanding, we shall draw a clear line of distinction between lingual objects and the meanings they convey. Thus, for example, in the case of tense, there will be distinguished, among others,

(i) the family of tenses, and
(ii) tense meanings conveyed by particular tenses.

Anticipatorily, it should be noted that the family of tenses is primarily included in the intersection of the categories specified by the meanings of Temporality, Modality, and Aspectuality. What is more, tense may grammaticalize the meanings from these three dimensions, whereby these meanings are more abstract than those which are lexicalized. And hence they are unable to signify the properties of events as precisely as do the latter (cf. Comrie 1999: 364).

As already hinted at above, our theoretical approximation of tense diverges from other approaches to this category to a considerable extent. The evaluation of our conception of theoretical tensology is still premature. Even if it would turn out to be adequate, we would be as distant as possible from the intention to consider it as superior to other tense-oriented conceptions.

2. Verb Forms

Although it seems to be intuitive enough, the concept of 'verb form' requires some clarification in order to prevent possible failures to understand its use in our subsequent considerations. Important is to clearly distinguish objects of the following two kinds:
(i) actual verb forms, and
(ii) verb forms.

The relation of an actual verb form to a corresponding verb form is as that between a *token* and a corresponding *type*. The former is an individual concrete object, and the latter the set of such objects. We can also say that an actual verb form is an object of the zero level of abstraction, while a verb form is already an object of the first level of abstraction.

Let us now illustrate with language material the distinction between the considered kinds of objects. For this purpose suppose that Arab speakers utter on various occasions the following expressions: $kataba_1$, $kataba_2$, $kataba_3$, etc. Each of these expressions is in fact an actual verb form meaning 'he wrote', which is to say that all these expressions are homophonous and homosignificative. If so they may be grouped together into a corresponding set which can be called the verb form *kataba*. As is easy to infer, each actual verb form $kataba_i$ will be an element of the verb form *kataba*. We can also say that each actual verb form $kataba_i$ as a concrete object represents the verb form *kataba* being already an abstract object. For the sake of notational convenience, the family of all verb forms of Tunisian Arabic can be denoted by the symbol **VFTA**. We can use the term 'family of **VFTA**', because each of its elements is a set. As should also become clear, the family **VFTA** is a classification of the set of all actual verb forms of **TA** which can be denoted as **VfTA**.

In a similar way we can conceive of the families of verb forms for other languages or lingual varieties. We can also make use of the symbol VF_L denoting the family of verb forms of a language L. And, more importantly, the family VF_L could be viewed as

a result of a considerable reduction of diversity inhering in the huge set of actual verb forms (*Vf$_L$*) to a manageable smaller set of verb forms.

Unfortunately, in linguistic practice the whole family of **VF** of no language, for obvious reasons, will be available to us. Practically we have access solely to some actual verb forms which we treat as representants of the corresponding verb forms. Thus, for example, each of the following inscriptions:

ktibit (**MSA** *katabtu / katabta*) 'I wrote / you wrote'
qrīt (**MSA** *qara'tu / qara'ta*) 'I read / you read'
ẖrağt (**MSA** *ẖarağtu / ẖarağta*) 'I went out / you went out'

is treated as denoting the corresponding verb form of **TA**.

It should not be overlooked that verb forms belong not only to the verb as one of the parts of speech but they also belong to syntactic categories such as Predicate and Attribute. Inspecting from the point of view of syntax, verb forms are syntactic words functioning as minimal units of syntax, and at the same time, they belong to maximal units of inflectional morphology (cf. Bańczerowski, Le Dinh 2012: 40, 57).

The family of verb forms of any language has a great number of elements. Linguists have worked out methods to gain insight into this multitude and to make it more tractable. This is usually done by concentrating on certain properties of verb forms while disregarding some others, and thereby recognizing that the family of *VF$_L$* is not a chaotic object, since its elements enter various relations among which proportional analogy plays a fundamental role. Based on the net of these relations verb forms are organized into corresponding objects such as paradigms, conjugations, tenses, tempora, among others. However, these objects are not absolute but relative to dimensions (parameters) with respect to which they are constructed. And, the choice of these dimensions is, at the same time, a choice of corresponding properties of the objects in question.

3. Paradigmatification of Verb Forms

Verb forms, as inflectional objects, may be classified into appropriate paradigms. The operation of converting the family of verb forms (**VFTA**) into a family of verb paradigms (**VPTA**) we shall call paradigmatification which is induced by the ***relation of homoparadigmaticity*** (**Hpd**). Stating that two verb forms are homoparadigmatic is equivalent to saying that they belong to the same paradigm (cf. Bańczerowski 1999: 29ff.).

For the conception of homoparadigmaticity ***the relation of flection*** is absolutely necessary. This relation binds verb forms which are simultaneously equal with respect to certain dimensions (parameters), and distinct with respect to some others. The former dimensions will be called ***equalizing*** and the latter ***distinguishing***.

For quick recollection let us also reiterate that by a dimension a set of homogeneous properties such as: morphological, semantic, or others, will be understood here.

Consequently, a semantically founded dimension may be comprised of homogeneous meanings, that is to say, meanings in the same respect. Thus, for example, the dimension of Temporality may be conceived of as a set comprised of:

(i)   two meanings (Past and Non-past), or as a set of

(ii) three meanings (Past, Present and Future), or as a set of

(iii) some other temporal meanings.

    The relation of homoparadigmaticity will thus specify a corresponding grouping together of verb forms into verb paradigms. In order to determine the properties of this relation, relevant for the paradigmatification of verb forms, we must find recourse in the following equalizing and distinguishing dimensions which may be subsumed under paradigm-relevant dimensions:

(3.1) Equalizing dimensions:
    (i)   Lexicality,
    (ii)   Partiorationality,
    (iii) Temporality,
    (iv)   Aspectuality,
    (v)   Modality/Mood,
    (vi)   Voice.

(3.2) Distinguishing dimensions:
    (i)   Person,
    (ii)   Number,
    (iii) Gender.

    The definition of the relation *Hpd* will be formulated in terms of the following postulates:

Df 3.1

Po 3.1 *Postulate of equivalence*
        The relation *Hpd* is an equivalence on the family of verb forms (*VFTA*).

Po 3.2 *Postulate of paradigm exhaustive characterization*
        Each paradigm must be characterized with respect to each paradigm-relevant dimension.

Po 3.3 *Postulate of intraparadigmatic equality*
        If two verb forms are homoparadigmatic, then they are indistinguishable with respect to all equalizing dimensions, that is to say, they signify the same meanings from each of these dimensions.

Po 3.4 *Postulate of intraparadigmatic inflection*
        If two different verb forms are homoparadigmatic, then they are bound by the relation of opposition with respect to at least one of the distinguishing dimensions.

Po 3.5 *Postulate of interparadigmatic distinction*
        If *P* is a verb paradigm, then the set of all paradigm-relevant properties common to all verb forms belonging to *P* differs from the set of all such properties common to the verb forms belonging to any other verb paradigm.

Po 3.6   *Postulate of interparadigmatic analogy*
         Any two verb paradigms are bound up by the relation of proportional analogy, by
         virtue of their respective pairs of verb forms and with regard to the distinguishing
         dimensions.

According to Po 3.1, homoparadigmaticity as an equivalence relation induces
a classification of the family of **TA** verb forms into a ***family of TA verb paradigms***
(***VPTA***). This latter family satisfies thus the following conditions:
(i)   Each verb paradigm is a non-empty set of verb forms;
(ii) Each verb form belongs to a verb paradigm;
(iii) Any two different verb paradigms are disjoint sets of verb forms.

In light of Po 2 each paradigm must be associated with respective meanings from
each of the equalizing and distinguishing dimensions.

Po 3.3 requires that all verb forms belonging to the same verb paradigm convey the
same meanings from the dimensions assumed as equalizing. Consequently, verb forms
considered as homoparadigmatic must be homolexical, homopartiorational, homotemporal,
homoaspectual, homomodal, and homovoicive.

Also from Po 3.4 a requirement can be derived, namely that any two different homopara-
digmatic verb forms must inflect for at least one distinguishing dimension. Consequently,
such verb forms must be opposed with respect to Person or Number or Gender.

According to the requirement derived from Po 3.5 any two paradigms as wholes *sui
generis* must be in opposition with respect to at least one equalizing dimension, as for
example Voice, Temporality, Modality, Lexicality, etc.

On the strength of Po 3.6 there obtains a kind of similarity between any two verb
paradigms by virtue of their respective pairs of verb forms being bound by proportional
analogy in the sense that the distinction occurring in the one pair also occurs in the
other pair.

A classification of verb forms into verb paradigms presupposes thus a strict observance
of the above postulates. Needless to say, a less numerous set of paradigmatificative
dimensions will specify more comprehensive paradigms than conversely.

For the sake of exemplification and quick identification, let us consider the following
verb paradigms of **TA** and its equivalents in Modern Standard Arabic (MSA).

(3.1)   **TA**   **MSA**
        ktibit   (*katabtu*)
        ktibit   (*katabta*)
        ktibti   (*katabti*)
        ktib   (*kataba*)
        kitbit   (*katabat*)
        ktibnā   (*katabnā*)
        ktibtū   (*katabtumā, katabtum*; *katabtunna*)
        kitbū   (*katabā; katabatā, katabū; katabna*)
(3.2)   *niktib*   (*aktubu*)
        tiktib   (*taktubu*)

	tiktbī	(*taktubīna*)
	yiktib	(*yaktubu*)
	tiktib	(*taktubu*)
	niktbū	(*naktubu*)
	tiktbū	(*taktubāni, taktubūna; taktubna*)
	yiktbū	(*yaktubāni; taktubāni, yaktubūna; yaktubna*)
(3.3)	*iktib*	(*uktub*)
	iktbī	(*uktubī*)
	iktbū	(*uktubā /uktubū, uktubna*)
(3.4)	*tiktib*	(*kutiba*)
	tkitbit	(*kutibat*)
	tkitbū	(*kutibā; kutibatā, kutibū; kutibna*)
(3.5)	*kunt niktib*	(*kuntu aktubu*)
	kunt tiktib	(*kunta taktubu*)
	kunti tiktbī	(*kunti taktubīna*)
	kān yiktib	(*kāna yaktubu*)
	kānit tiktib	(*kānat taktubu*)
	kunnā niktib	(*kunā naktubu*)
	kuntū tiktbū	(*kuntumā taktubāni, kuntum taktubūna; kuntunna taktubna*)

4. Proposals of Tense Families for *MSA*

The theoretical tensology of **MSA** has not succeeded thus far in developing unambiguous terminology nor creating a consistent commonly accepted tense system for this language. Modern terminological proposals have taken into account information from at least two sources:

(i) traditional Arabic linguistics, and

(ii) foreign, extra-Arabic conceptions of tense and time.

The discussion proper oriented towards the concept of 'tense' and its adequate equivalents in **MSA** began in the sixties of the 20th century. And, in this discussion there were involved Arabists, both Arabs and foreigners.

Already traditional Arab grammarians operated with the following three terms: *zamān*, *zaman*, and *waqt*. These terms, however, did not signify precise tensological meanings. The distinctions between them must not have been clear, and they were used, not rarely, interchangeably (cf. Ar-Rīḥānī 1997: 349ff.). Contemporary grammarians, usually Arabists, have attempted to interpret inherited terms such as: *aṣ-ṣīġa, aṣ-ṣīġa az-zamaniyya, az-zaman, az-zamān* and to apply them in the description of Arabic verb, particularly, tense, as well as to coin some new terms. Some of them looked for a clear distinction between *al-waqt* and *az-zaman al-luġawī*. Thus for example, Bišr (1962) understood this latter term as lingual means used by a language to signify time. Thus, *az-zamān al-luġawī* was identified by him with tense. Within *az-zamān* he distinguished

the two other terms: *az-zaman al-manṭiqī* and *az-zaman al-falsafī*, and this former refers to time. If we correctly understand, Bišr made an important distinction between temporal meanings and their significators.

In a similar way proceeded Tammām Ḥassān (1973), who also distinguished *az-zaman al-falsafī* and *az-zaman al-luḡawī*, the former denoting time and the latter tense. What is more, he identifies *az-zamān al-falsafī* with *az-zamān fī al-luḡati al-ʾarabiyyati* (cf. Ar-Rīḥānī 1997: 350f.) whereby both seem to denote temporal meanings. Tammām Ḥassān also introduced the following two terms:

(i) *az-zaman an-naḥwī* (temporal meanings of the verb in context), and
(ii) *az-zaman aṣ-ṣarfī* (temporal meanings of the verb outside context),
distinguished within *az-zamān al-luḡawī*.

Thus, the terms *az-zaman* and *az-zamān* were taken over by Tammām Ḥassān from traditional Arabic grammar, and were given more precise interpretations.

As for foreign sources, especially English system of tenses was contrastively investigated, and it exerted some influence upon the conceptualization of the corresponding categories in Arabic (cf. Ar-Rīḥānī 1997: 13ff.; 203ff.).

For the time being and to the best of our knowledge, a precise explicit definition of tense, in general and Arabic-specific reference is not really commonly accepted yet. This, in turn, makes it difficult to gain adequate insight into theoretical principles of Arabic tensology. Uncontestably, there is the belief that tense is one of the verb categories, and it primarily concerns verb forms. The idea of the family of tenses also seems to be acceptable, since in every language there operates more than one tense. And, in fact, grammarians kept establishing various families of tenses. Bišr, for example, distinguished 17 tenses (for other proposals cf. Ar-Rīḥānī 1997: 350ff.).

Instead of going into a detailed analysis of some such families it will be sufficient for our current purposes to juxtapose two families of tenses established for **MSA** and to make only some brief comments for reasons of space. One of these families is proposed by Wright, and the other by Danecki.

The family of tenses proposed by Wright (1862: 1ff.) for Arabic does not seem to allow for unequivocal interpretation. Of course, we shall opt for that one which appears the most probable for us. And, consequently we are inclined to assert that Wright's proposal provides for tenses distinguished below, and exemplified in parentheses.

(i)   the Perfect (*ǧāʾa*, *qāla*);
(ii)   the Pluperfect (*kāna ḫaraǧa*);
(iii)   (Past continuous) (*kāna yuḥibbu*);
(iv)   the Future-perfect (*yakūnu baqiya* (1862: 14));
(v)   the Imperfect indicative (*yaʿlamu*);
(vi)   the Imperfect subjunctive (*yadḫula*);
(vii)   the Imperfect yussive (*taʿlam*);
(viii) the Imperfect energetic (*ʾaḍrubanna*);
(ix)   the Imperative (*ʾumkut*);
(x)   the Imperative energetic (*tamūtanna*).

Wright speaks explicitly about temporal, aspectual and modal meanings of tenses. Thus, for example, in enumerating various meanings signified by the perfect tense he says that it "indicates: An act completed at some past time…" (1862: 1).

In his *Gramatyka języka arabskiego* (A grammar of Arabic language, 2012: 223ff.) Danecki devoted considerable attention to the category of verb and tense. Tense is referred to by him with the term *czas* 'time' in agreement with Polish grammatical tradition, which also avails itself of the term *czas gramatyczny* 'grammatical time'. Thus, the term 'czas' is ambiguous and it may refer both to 'tense' and 'time'.

The family of tenses with which Danecki operates is comprised of the following items:
(i)   Czas przeszły (tryb oznajmujący) – al-māḍī; Past indicative;
(ii)   Czas teraźniejszy/czas nieprzeszły (tryb oznajmujący) – al-muḍāriʿ; Present/Non-past indicative;
(iii)   Czas przeszły ciągły (*kāna yaktubu*; Past continuous);
        (a) *kāna yaktubu*
        (b) *kāna ğālisan* (Imiesłowowy czas przeszły ciągły, Past participial continuous (p. 238);
(iv)   Czas teraźniejszy ciągły (*anā ḏāhib* – Imiesłowowy czas teraźniejszy, Present participial continuous);
(v)   Czas zaprzeszły (*kāna* [*qad*] *kataba*; Past perfect);
(vi)   Czas przyszły dokonany (*yakūnu qad kataba*; Future perfect);
(vii)   Czas przyszły w przeszłości (*kāna sa-yaktubu*; Future in the past);
(viii) Tryb łączący (*yaktuba*; Subjunctive);
(ix)   Apocopatus/tryb obcięty (*yakbub*);
(x)   Tryb emfatyczny (*yaktuban, yaktubanna*; Energeticus/energicus);
(xii)   Tryb rozkazujący (*uktub, uktuban, uktubanna*; Imperative mood).

Not all tenses distinguished by Danecki were given appropriate names. Some of them are referred to by verb forms of the 3rd pers. sg. We have also adduced English names for the sake of easier identification. We would also like to emphasize that Danecki clearly distinguishes tenses from their meanings. Thus, for example, tense is never identified with time.

5. Towards the Family of Tenses for *TA*

Similarly to verb paradigms also tenses, as already mentioned above, are inflectional categories of the verb. However, tenses are more comprehensive and thus more abstract categories than paradigms are. In our approach, the family of tenses will result from a grouping of the family of verb paradigms. Needless to say, this latter family may be grouped in various ways, whence the question arises concerning which of its groupings will be tensoficative (tensogenic), that is, yielding a family of tenses. Related to this, another question comes to mind, and namely, whether there is only one tensoficative grouping of verb paradigms or are there more than one.

As can be rightly supposed, an effective tensoficative enterprise also requires us to decide which dimensions, semantic or structural, should be accepted as relevant, since it is against them that verb paradigms will be compared with each other, in order to settle on whether they belong to the same tense or to different tenses or, to put it in yet another way, whether they are homotensive or heterotensive.

According to Comrie: 'Tense is a grammatical category referring to the location of situations in time' (1999: 363). The signification of temporal meanings may be considered as a main semantic function of verb forms but it is hardly appropriate that referring solely to the dimension of Temporality would be sufficient to distinguish particular tenses from each other.

In addition to temporal ones verb forms obligatorily convey also aspectual, modal and other meanings, and they may be diversified as regards their morphological structure. Traditional grammar availed itself, besides Temporality, also of the dimensions of Aspectuality and Modality while establishing the family of tenses, which is reflected in such names of tenses as: Perfect indicative, Imperfect subjunctive, among others. Such names are not the result of confusion as Comrie asserts (1999: 363), but they mirror simply a different approach to tense. Clear also is that the more dimensions are being referred to, the less comprehensive will be the resulting tenses.

First of all it should be decided which dimensions are relevant for the definition of the relation of homotensivity reflecting the property of any two verb paradigms belonging to the same tense. Introducing the relation of homoparadigmaticity we took recourse to nine dimensions. Obviously, the formulation of the definition of the relation of homotensivity will require a smaller number of dimensions, and it seems to us as sufficient to operate with the following ones:

(i)   Temporality,
(ii) Modality,
(iii) Aspectuality, and
(iv) (Morphological) Structure.

The provision should also be made that each of the first three dimensions contains the meaning of Indeterminacy, respectively, and all of them are sets of primary, that is, textually unconditioned meanings.

Thus, we shall consider the enumerated four dimensions as tense-relevant or, simply, tensoficative. However, a justification why exactly these dimensions and not some others were chosen, is not easy to give. For the time being we rely on our intuitions rather than on yet unavailable compelling reasoning. Nevertheless we are convinced that such a justification could be found if a representative amount of paradigms would be examined. But the feasibility of such a task is rather hardly imaginable.

In comparing verb paradigms with respect to the dimensions distinguished above as tense-relevant, it will be possible to decide whether any two paradigms are tense-distinct or tense-equalized. And this, in turn, will be reflected in the corresponding relations of opposition and equality. Availing ourselves of these relations and some others, a definition of the ***relation of homotensivity*** (***Hts***), or belonging to the same tense, will

be formulated by means of the following postulates forming a propositional basis for our current tensological reasoning:

Df 5.1

Po 5.1   *Postulate of equivalence*
          The relation **Hts** is an equivalence on the family of verb paradigms (**VPTA**).

Po 5.2   *Postulate of tense exhaustive characterization*
          Each tense must be characterized with respect to each tense-relevant dimension.

Po 5.3   *Postulate of dimensional entanglement of signification*
          Temporality is inseparably bound up with Modality and Aspectuality.

Po 5.4   *Postulate of temporal opposition*
          If two verb paradigms are bound by temporal opposition, then they are not homotensive, that is, they do not belong to the same tense.

Po 5.5   *Postulate of modal opposition*
          If two verb paradigms differ in mood, then they do not belong to the same tense.

Po 5.6   *Postulate of aspectual-structural complementarity*
          If two verb paradigms are bound by the relation **Hts**, then they are homotemporal, homomodal, and sufficiently similar aspectually or structurally.

Po 5.7   *Postulate of intertensive distinction*
          If T_i and T_j are different tenses in the family **TSTA**, then they must differ at least as regards one tense-relevant dimension.

Po 5.8   *Postulate of intertensive equality*
          If T_i and T_j are different tenses in the family **TSTA**, then they are equalized at least as regards one tense-relevant dimension.

Po 5.9   *Postulate of intertensive proportional analogy*
          Any two different tenses in the family **TSTA** are bound up by the relation of proportional analogy by virtue of the respective pairs of verb forms, and with regard to the tense-relevant dimensions.

Po 5.10   *Postulate of minimal (least) numerosity*
          If the relation **Hts**, characterized above by nine postulates is really tensoficative, that is, it specifies the family of tenses for **TA**, then there cannot be a less numerous family of tenses, proposed for **TA** and specified by any other relation of homotensivity, which would satisfy the postulates 5.1–5.9.

In light of definition 5.1, a paradigm-classification specified by the relation **Hts** results in the family of tenses for **TA**, symbolized as **TSTA**, if and only if this classification satisfies the postulates 5.1–5.10. Thus, the postulates forming this definition express conditions which must be fulfilled in order a paradigm-classification is tensoficative. For the sake of better understanding of these postulates let us below explain briefly their contents.

According to Po 5.1, the relation **Hts** as an equivalence on the family **VPTA** induces a corresponding classification of this family into the family **TSTA** being such that:

(i)   Each tense is a nonempty set of paradigms.

(ii) Each paradigm belongs to a tense.

(iii) Any two different tenses are disjoint sets of paradigms.

Po 5.2 requires that every tense is associated with respective meaning or property from each tense-relevant dimension, whereby an exhaustive parametric characterization of these tenses is secured.

Although Po 5.2 requires exhaustive characterization of particular tenses with respect to tense-relevant dimensions, it does not say anything about the relationship of tense-semantic dimensions to each other. The information about this interdimensional relationship is expressed in Po 5.3 which states the significational inseparability of Temporality, Aspectuality and Modality. In other words, the signification of a temporal meaning by a tense is inseparably bound up with a simultaneous signification of aspectual and modal meanings by this tense. The inseparability of such a kind is consequent upon the fact that temporal course of events is incapable of being disjoined from the mode of the course and the speaker's attitude to it. And this, in turn, finds reflection in the entanglement of the three dimensions in question.

Po 5.4 and 5.5 do not seem to need any clarification, since their prohibitive contents are sufficiently transparent. In passing, it should be added that from Po 5.4 the consequence follows saying that any two verb paradigms belonging to the same tense are homotemporal. An analogous consequence, *mutatis mutandis*, can be derived from Po 5.5.

The content of Po 5.6 may appear dubious, at least at the first sight. Its intention is to account for certain differences which may obtain between paradigms with respect to aspectuality or the structure of respective verb forms that are elements of these paradigms. If these differences are negligible, the paradigms in question may be considered as homotensive. However, the conditions under which these differences could be ignored necessitate more precision. An uneasy question arises whether two paradigms which are both homotemporal and homomodal but which diverge aspectually or structurally can be grouped together into the same tense. Of course, they can, but under the condition that such a grouping will not violate the other postulates, in particular, Po′s 5.7–5.9. Thus, Po 5.6 does not require that two homotensive paradigms be strictly homoaspectual or homostructural. It should be noted that homostructurality is also connected with a morphophonological proportional analogy obtaining between pairs of verb forms belonging to different paradigms which are elements of the same tense.

Although the content of Po 5.7 is reasonably clear, it necessitates some clarification. If, namely, *T* is a tense in the family *TSTA*, specified by the relation *Hts* defined on the family *VPTA*, then the set of all tensive (tense-relevant) properties, common to all verb paradigms belonging to *T*, differs from the set of all tensive properties common to the verb paradigms belonging to any other tense in the family *TSTA*. A consequence drawn from this postulate is of fundamental importance for tensology, since by stating that every two different tenses must differ at least in one of the tense-relevant dimensions, it justifies the necessity of associating every tense with a corresponding set of distinctive properties, in order to make the disjointedness of any two tenses transparent. Po 5.7 also furnishes

in this way an answer to the question why an exhaustive dimensional characterization of particular tenses is absolutely necessary (cf. Po 5.2).

If Po 5.7 emphasizes the distinction between any two tenses in the family *TSTA*, then Po 5.8 makes the equality (similarity) between any two tenses of this family conspicuous. Intertensive distinction and equality, complementing each other in a certain sense, are forces *sui generis*, which unite the objects, being elements of the family in question, into a diversified whole which could be also viewed as a unity in diversity. In consequence, both Po 5.7 and Po 5.8 jointly separate this family from the rest of the world, and thereby they reveal sort of their metaphysical flavor (cf. Bańczerowski et al. 1982: 141).

Po 5.9 treats the relation of intertensive proportional analogy (***pats***) in the family of tenses, and it requires a comment. This relation presupposes the existence of corresponding pairs of verb forms belonging to semantic proportional opposition. Among such pairs the following may be found:

(5.1) (*ktib*, *yiktib*), (*šrab*, *yušrub*), (*qrā*, *yaqrā*);
(5.2) (*ktib*, *kān yiktib*), (*šrab*, *kān yušrub*), (*qrā*, *kān yaqrā*), etc.

The verb forms *ktib*, *šrab*, *qrā* belong to Past indefinite, *yiktib*, *yušrub*, *yaqrā* belong to the Present-future, and *kān yiktib*, *kān yušrub*, *kān yaqrā* to Perfect continuous.

Two verb forms are bound by the relation of semantic proportional opposition if and only if they are distinct with respect to at least one tense-relevant dimension, and this distinction is shared by other pairs of verb forms. Thus, for example, *ktib* and *yiktib* differ with respect to Temporality and Aspectuality, while *ktib* and *kān yiktib* differ with respect to Aspectuality, and these differences reappear in other corresponding pairs.

The relation of intertensive proportional analogy, in turn, binds pairs of verb forms belonging to proportional opposition, and thus, sharing identical semantic distinctions. This may be exemplified in notation as follows:

(5.3) (*ktib*, *yiktib*) ***pats*** (*šrab*, *yušrub*)
(5.4) (*ktib*, *kān yiktib*) ***pats*** (*qrā*, *kān yaqrā*)

The applied notation makes prominent the proportionality of the semantic opposition binding verb forms in the pairs of pairs belonging to ***pats***. In other words, the opposition obtaining between the members of the first pair also obtains between the members of the second pair. Or, to put it more precisely and in a more exemplicative manner, *ktib* differs in meaning from *yiktib* as *šrab* differs from *yušrub*. It should be born thus in mind that the relation of proportional opposition is a set of pairs of verb forms, while the relation of proportional analogy is a set of pairs of pairs of verb forms.

The equality of semantic opposition conveyed by both members forming a pair of proportional analogy reveals a kind of semantic connexity binding any two tenses in the family of tenses. And thereby Po 5.9 also supports the idea that this family creates a diversified unity *sui generis*.

Let us also hint at the possibility of extending the proportional analogy from pairs of pairs of verb forms to pairs of pairs of corresponding verb paradigms.

During our considerations in this article, it was indicated more than once that the ***reduction of diversity*** within the category of verb should be treated as a fundamental idea behind all the classifications being here carried out. And also this idea is clearly articulated by Po 5.10 which expresses the necessity of arriving at the smallest possible number of tenses in the family *TSTA*. Consequently, Po 5.10 should be considered to be superordinate to all other postulates of definition 5.1. In fact, all other postulates forming this definition are subsidiary to Po 5.10, since it explicitly requires the greatest possible reduction of paradigm diversity while establishing a family of tenses. In other words, what this postulate requires is to group together as many as possible paradigms into each tense, in order to obtain a least numerous possible family of tenses, without, however, violating all other postulates of which Df 5.1 is comprised (cf. also Batóg 1967: 105f.).

It seems reasonable to note that Df 5.1 shows a way towards a tense code or, more generally, towards a grammar of tense. Needless to say that a description of tense code operating in *TA* also pursues a practical aim.

However, it should not be overlooked that the postulates forming the definition 5.1, on no account, can be already regarded as a set of directives or rules which will directly lead us to establishing a desirable family of tenses for *TA*. On the contrary, they are solely general principles required to be absolutely followed while heading towards the family of tenses. Unfortunately, the application of these principles to a concrete language material may cause quandaries on the part of linguists.

What additionally makes the problem difficult is the possibility of grouping together verb paradigms of a language or a lingual variety into tenses in more than just a single manner. This kind of non-uniqueness of tense-related solutions is a real challenge for classifying a family of paradigms into a family of tenses and draws our attention also towards a multilevel classification of this former family as a natural complementation of its monolevel classification (cf. Bańczerowski 1983).

The theoretical principles underlying linguistic beliefs concerning the concept of tense are not easily reconstructible. For Comrie the difference in English between *was reading* and *read* is not one of tense but of aspect, since both these verb forms belong to absolute past tense (cf. Comrie 2001: 3ff.). Clearly, such an approach may be dubious, if inspected in light of Po 5.6 and Po 5.7. The adduced verb forms do not differ in Temporality and Modality but the aspectual and structural differences between them are not negligible. If we group them into the same tense, as Comrie does, then we must associate them with different subtenses within this tense, in order to account for the distinctions in question.

The postulates Po 5.1–Po 5.10 have been thus formulated with the intention of facilitating unequivocal insight into the propositional content of the tensological theory put forward here for further disputation. And, beyond this, by examining the empirical validity of particular postulates it should become more accommodating to decide upon the adequacy of the proposed theory as a whole.

In terms of postulates constituting the definition 5.1, the respective directives for the operation of tensofication, as has been already hinted at, can be derived. The purpose of such directives is to secure an effective carrying out of this operation aiming at the classification of paradigms into tenses. Clearly, among these directives, requirements, prohibitions, permissions, and recommendations may be found. Thus, for example, from Po 5.4 and 5.5 respective prohibitions can be derived which forbid grouping together into the same tense those paradigms which are bound by temporal or modal oppositions. However, a formulation of directives effectuating (implementing) the contents of some other postulates may turn out to be far from easy.

6. A Family of Tenses for Tunisian Arabic and its Dimensional Characterization

Having in mind the definition 5.1, we shall subsequently risk proposing a tentative, although incomplete, concrete family of tenses for **TA**, symbolized as **tsta** which can be considered as a partial **model** for our tensological theory. Each element of this family, that is, each tense, will be represented by an abstract scheme (**ṣīġa**) of 3rd person sg. which in turn will be exemplified with appropriate verb forms. However, before doing this the following comment seems to be in order.

In presenting the family **tsta** its particular elements should be denoted by appropriate terms as a means to clearly keep them distinct from each other. For this purpose the terms already in use will be applied, with modifications if necessary, and some new will be coined. What should be necessarily kept in mind is that the terms in question cannot be considered as adequate significators of the meanings that the tenses really convey. This problem could be solved by explicitly associating the meanings with particular tenses. However, such an enterprise is rather tedious and could not have been accomplished by us as yet. As should be correctly inferred the tenses enumerated below only partially exhaust the family **tsta** and they take into account verb forms most frequently used in oral communication. The family **tsta** cannot be considered as already complete but as open.

Past indefinite (Czas przeszły) (al-māḍī al-muṭlaq / ġayr muḥaddad)
scheme: *fʿil* (*ktib*) (**MSA** *kataba*)
scheme: *fʿal* (*šrab*) (**MSA** *šariba*)
Past continuous (Czas przeszły ciągły)
scheme: *kān yifʿil* (*kān yiktib*) (**MSA** *kāna yaktubu*)
scheme: *kān yufʿul* (*kān yušrub*) (**MSA** *kāna yašrabu*)
Past perfect (Czas zaprzeszły)
scheme: *kān fʿil* (*kān ktib*) (**MSA** *kāna kataba*)
scheme: *kān fʿal* (*kān šrab*) (**MSA** *kāna šariba*)
Present (Czas teraźniejszy) (al-muḍāriʿ)
scheme: *yifʿil* (*yiktib*) (**MSA** *yaktubu*)
scheme: *yufʿul* (*yušrub*) (**MSA** *yašrabu*)

Present perfect continuous
    scheme: *māzāl yifʿil* (*māzāl yiktib*) (**MSA** *mā zāla yaktubu*)
    scheme: *māzāl yufʿul* (*māzāl yušrub*) (**MSA** *mā zāla yašrabu*)

Present continuous (Czas teraźniejszy ciągły)
    scheme: *ykūn yifʿil* (*ykūn yiktib*) (**MSA** *yakūnu yaktubu*)
    scheme: *ykūn yufʿul* (*ykūn yušrub*) (**MSA** *yakūnu yašrabu*)

Future near or remote (Czas przyszły bliski lub odległy)
    scheme: *bāš yifʿil* (*bāš yiktib*) (**MSA** *sayaktubu / sawfa yaktubu*)
    scheme: *bāš yufʿul* (*bāš yušrub*) (**MSA** *sayašrabu / sawfa yašrabu*)

Future Perfect (Czas przyszły dokonany)
    scheme: *ykūn fʿil* (*ykūn ktib*) (**MSA** *yakūnu kataba*)
    scheme: *ykūn fʿal* (*ykūn šrab*) (**MSA** *yakūnu šariba*)

Future in the past (Przyszłość w przeszłości)
    scheme: *kān bāš yifʿil* (*kān bāš yiktib*) (**MSA** *kāna sayaktubu*)
    scheme: kān bāš yufʿul (*kān bāš yušrub*) (**MSA** *kāna sayašrabu*)

Present participial continuous (Imiesłowowy czas teraźniejszy ciągły)
    scheme: *fāʿil* (*ḫāriǧ*) (**MSA** *ḫāriǧun*)
        fāʿil (*rāgid*) (cf. **MSA** *nāʾimun*)

Past participial continuous (Imiesłowowy czas przeszły ciągły)
    scheme: *kān fāʿil* (*kān ḫāriǧ*) (**MSA** *kāna ḫāriǧan*)
        kān fāʿil (*kān w*āgif) (**MSA** *kāna wāqifan*)

Having above, briefly and rather non-exhaustively, proposed a concrete family of tenses for **TA**, we would like to emphasize the hypotheticality of this family. However, this hypotheticality will vanish immediately, if, supported by available evidence, it can be demonstrated that the family **tsta** fulfills all the postulates of which definition 5.1 consists.

The dimensional (parametric) characterization of particular tenses, elements of the family **tsta**, will be accomplished by associating them with appropriate meanings from each of the tense-relevant dimensions. In doing so it should be recalled that tenses, as classes of paradigms comprised of verb forms, grammaticalize these meanings to reflect fairly abstract conceptualization of the corresponding temporal-aspectual-modal properties of events. The grammaticalized tensive meanings, in turn, may undergo precisation or even be changed by such factors as:

(i)   lexical meanings of the verb forms,
(ii) intrasentential context, or
(iii) intratextual context.

Two kinds of tensive meanings could be distinguished, and namely:

(i)   primary (constitutive, canonical), and
(ii) secondary (cf. Kuryłowicz 1949: 134ff.).

Both primary and secondary meanings must be relativized to the tense relevant dimensions.

The following hypothesis appears to be valid:

Hy 6.1 Every tense signifies both its primary and secondary meanings.

Obviously, in diachronic development the status of these meanings may be reversed. If considered as significators of primary tensive meanings the elements of the family ***tsta*** could be conceived of as ***tenses proper*** or ***tenses as such***. On the trial basis let us below characterize two tenses by associating with them, respectively, primary and secondary meanings. The latter are given in parentheses.

Past indefinite   Past absolute (relative)
                       Indefiniteness in the past
                       Completion-Terminitivity (Durativity, Momentarity, Iterativity)
                       Indicativity (Subjunctivity)
                       Simple

Past continuous   Past absolute close to the moment of speaking
                       Incompletion / Durativity
                       Indicativity (Subjunctivity)
                       Composite

7. From Tenses to Tempora

Having at our prior disposal the family of tenses as proposed above for ***TA***, various classifications also of this family can be considered. What comes immediately to mind is the limitation of an intended classification exclusively to the dimension of Temporality. Accordingly, the ***relation of homotemporality*** (***Htp***) would bind tenses signifying the same time or, putting it more precisely, the same temporal meaning from the dimension in question. However, this dimension may be conceived of in various ways, reflecting differing relations obtaining between events on the time axis.

The most rough approach to the dimension of Temporality provides for treating it as a set of two temporal meanings, namely, Past and Non-Past without splitting them further. Such a dimension of Temporality would specify the classification of the family of tenses (***TSTA***) into the corresponding family of two tempora which could be called, respectively, Past (Preterite) and Non-past (Non-preterite / Imperfect). The former would be thus comprised of the following tenses: Past indefinite, Past continuous, Past perfect, and Future in the past.

However, a monodimensional approximation to time, providing for two temporal meanings (Past, Non-past) or even for three such meanings (Past, Presentity, Futurity) does not exhaust the diversity of temporal reality reflected in language. In order to account for this diversity more adequately also other temporal dimensions should not be ignored, and such as:
(i)   Temporal distance (from the moment of speaking), and
(ii) Temporal reference (to speech events or some other events).
The former of these dimensions is comprised of the meanings of Remoteness (in time) and Nearness (in time), and the latter of Absoluteness and Relativeness. Each temporal meaning will specify the corresponding tempus.

Thus, as it should become clear, the relation **Htp** can be defined with regard to one or more temporal dimensions. The greater the number of dimensions, the more numerous will become the resulting family of tempora (**TPTA**) specified by this relation.

8. Concluding Remarks

The above discussion revolved around the category of the verb. We could even say that it concerned some aspects of the grammar for the verb of **TA**. The verb system in this lingual variety, as every other lingual system, is comprised of various objects and corresponding relations.

The initial object of our inquiry was the set of actual verb forms of **TA** (**VfTA**). The classification of this set resulted in the family of verb forms (**VFTA**) which, in turn, was classified into the family of verb paradigms (**VPTA**). As a consequence of the classification of this latter, there arose the family of tenses (**TSTA**), and its model (**tsta**). The family of tenses was subsequently classified into the family of tempora (**TPTA**). Thus, each successive classification created more abstract objects in comparison to the preceding ones.

The ontological diversity of lingual objects, which appeared in the space of our considerations could be made more transparent if approximated in terms of logical types, while associating each such type with different designation. Following Batóg (1967: 7f.), the logical type of individuals will be designated by $*$, the type of sets of individuals by $(*)$, the type of families of sets of individuals by $((*))$, the type of families of families of sets of individuals by $(((*)))$, etc.

As can be rightly expected, an actual verb form, as an individual, is an object of type $*$, a verb form, as a set of actual verb forms, is an object of type $(*)$, and consequently, a paradigm is of type $((*))$, a tense of type $(((*)))$, and a tempus of type $((((*))))$. This typization operation reflects the following principle: if t designates any type, then (t) designates the type of sets whose elements are of the type t. Thus, as the sequence of types continues, the objects, which are associated with them, become gradually more abstract. Accordingly, a paradigm is more abstract than a verb form, a tense is more abstract than a paradigm. In consequence a gradual reduction of diversity within the category of verb is being achieved. To give some examples, let us indicate that the family of verb paradigms has less elements than the family of verb forms. Also the family of tenses is less numerous that the family of verb paradigms.

For the purposes of classifications accomplished above we operated with such equivalence relations as homoparadigmaticity (**Hpd**), homotensivity (**Hts**), and homotemporality (**Htp**). Other relations, as for example, the interparadigmatic relation of proportional analogy, were only touched upon in this article. Neither could attention be devoted to the classification of the family of paradigms into the family of conjugations.

Currently, a comprehensive grammar for the verb of **TA** appears as an object that is still distant but desirable. We would like to hope that our study be at least not completely

useless for the discussion around such a grammar. Immodestly as it might be, we also cherish the conviction that the theoretical principles applied in our article will turn out to be fecund for the inquiry into theoretical tensology.

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