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THE SOUNDS OF WEST MIDDLE GERMAN AS SPOKEN AT MARBURG AN DER LAHN.

I PROPOSE in the following paper to give an account of the sounds of the *Umgangssprache* which is familiar to me in my native town, Marburg an der Lahn. Although in the first instance an analysis of my own speech, it may be taken as representing that of the educated Marburger in general.

Survey of the organic movements and positions.

The articulations of the back of the tongue.

1. The root of the tongue is retracted towards the epiglottis in the articulation of [a] (*hat*) and [a:] (*kam*).
2. The back of the tongue is raised and brought into contact with the uvula in the articulation of [ɣ] (*Reh*) and [x] (*ach*).

The articulations of the main portion of the tongue.

1. Back Series. The main portion of the tongue is pressed into a narrower shape lengthways and bunched up along the ridge. The bilateral compression of the tongue increases gradually in running through the series [a], the first element of the diphthong [ao] (*Haus*), —[o] (*Gott*)—[o:] (*Sohn*)—[u] (*und*)—[u:] (*Mut*). For each of these vowels progressively the tongue assumes a more compressed form, and the point of its highest elevation is gradually shifted upwards and forwards within that part of the mouth cavity roofed by the soft palate. The articulation culminates in the formation of a complete closure for [ŋ], [g], and [k].

2. Front Series. The main portion of the tongue is raised, swelled and spread out under the hard palate, the point of highest elevation of the tongue being gradually shifted upwards and forwards in passing through the series [ø] (*Götze*)—[e] (*Fell, hält*), [y] (*hübsch*)—[ø:] (*Goethe*)—[e:] (*See, Bär*), [y:] (*Mühe*)—[i] (*mit*)—[i:] (*sie*). The articulation culminates in the formation of a friction channel for [j] and [ç].

In the diphthongs [ae] (*mein*), [oy] (*heute*), [ui] (*pfui*) the tongue glides from a back to a front position.

The articulations of the fore part of the tongue.

The blade and point of the tongue, which have no active part in the production of the above sounds, are brought into activity in the articulation of [s], [ʃ], [l], [n], [d], [t]. [s] and [ʃ] are blade consonants. In [l], [n], [d], [t], the point articulates against the alveolar arch, with central contact in [l], with complete closure in [n], [d], [t].

The articulations of the lips.

1. Lip-articulation in connection with tongue-articulation. There are two kinds of lip-rounding: (a) outer rounding, in the front-round vowels and immediately following [ɣ], [x], [j] and [ç]; (b) inner rounding, in the back-round vowels and immediately following [ɣ] and [x]. Protrusion is very marked in [ʃ]. Spreading occurs in very emphatic [e:] and [i:].

2. Lip and lip-teeth sounds, in the formation of which the tongue has no active part. Bilabial, bilabio-dental, or labio-dental slit-opening in [v]; labio-dental slit-opening in [f]; bilabial or bilabio-dental complete closure in [m], [b], [p].

The individual sounds are as follows:

VOWELS.

Murmur Vowels.

The usual form of [ə] is a glide with no definite supralaryngeal articulation except the closure of the nose passage and a moderate opening of the mouth. The glide or murmur vowel of normally unstressed prefixes may be raised to [e] or [e:] respectively when emphasised in a contrast, e.g., *nicht verkauft, sondern gekauft* [niçt 'feːkəʊft, sɔndɐn 'ge:kəʊft]. A back-modified glide or murmur vowel develops between a long vowel and a back-lateral, so that e.g. *nach* [na:x], *Buch* [bu:x], *mir* [mi:ɣ], have practically the value of [na:ˠx], [bu:ˠx], [mi:ˠɣ].

Back Vowels.

The whole body of the tongue, retaining its natural comparatively flat shape, is retracted so that the root is drawn backwards and down-

wards towards the epiglottis, and the tip moves away from the front teeth, against which it rests in ordinary breathing.

1. Low-back-wide [a]. It is heard in *Guten Tag* [gun'daχ], *Jagd*, *Spass*, *Haselnuss*, *Kladderadatsch*, *habt*, *gehabt*, *sagst*, *sagt*, *gesagt*, and sometimes in *hab*, *sag*. It is dropped in the weak forms of *darin*, *das*, *man* [mγ].

2. Low-back-halfnarrow [a:]. The root of the tongue is more energetically drawn in than in [a]. The lower jaw is lowered and the aperture is more widely opened than in the case of any other vowel. [a:] is reduced to [a] in proclitic position: *da liegt's*, *jawohl*. Cp. *Drama*, *dramatisch* [dʁa:ma:, dʁama:ti:].

In the back vowels the tongue is drawn down from the position of rest, while in back-round, front, and front-round vowels it is raised. Hence [a:], the more fully developed of the two back vowels, shows a wider oral air-passage than the less-developed [a]. In the back-round, front, and front-round vowels, the opposite is the case, viz., the configurative passage is progressively narrowed from the lowest grade through the more developed stages.

Back-round Vowels.

From the position of rest, in which it lies comparatively flat on the floor of the mouth, touching the lateral rows of teeth, and resting with its tip against the front teeth, the tongue is pressed into a narrower shape lengthways by bilateral compression of its main portion. The tongue, as it were, retires from either side to the centre. It is entirely withdrawn from the teeth and appears contracted and bunched up all along its ridge. As the centre towards which this bilateral compression is directed lies in the main portion, the tongue is raised at the back and slopes down to the point. The bilateral compression of the tongue is accompanied by lateral compression of the cheeks (inner rounding).

1. Mid-back-wide-round [o]. The tongue is only slightly compressed and raised; if we unround [o] we see that the greater portion of the uvula is still visible in the mirror. The lip-rounding does not extend beyond a slight lateral compression of the corners of the mouth. [o] is heard in *schon*, *gehorsam*, *grob*. In final unstressed -or it is reduced to a murmur, e.g., in *Doktor*.

2. Mid-back-narrow-round [o:]. The bilateral compression of the tongue is increased, and so, in consequence, are the declivity of the tongue on either side and its slope towards the point. The degree of

approximation between the tongue and the roof of the mouth is such that only the highest part of the soft palate becomes visible if [o:] is unrounded. The point of highest elevation of the tongue lies further forward than in [o]. The lip-rounding assumes more distinctly the character of lateral compression of the cheeks: the central lip-aperture is slightly protruded. [o:] is reduced to [o] in proclitic position, e.g., *sogleich*.

3. High-back-wide-round [u]. The bilateral compression of the tongue is again increased, the point of highest elevation of the tongue is shifted further upwards and forwards than in [o:]. But there is a general relaxation of the muscles concerned in the articulation; the lip-rounding is less energetic, the lip-aperture is wider. [u] is heard in *Spuck, Schuster, Wuchs, Geburt, genug*.

4. High-back-narrow-round [u:]. The compression of the tongue and cheeks is more fully and energetically developed than in [o:]. The point of highest elevation of the tongue lies further forward than in [u], almost under the highest point of the palatal arch; if we unround [u:] we see that the whole of the soft palate disappears behind the bunched-up tongue. The lip-opening is reduced to a narrow central aperture, and this lies at some distance from the front teeth, so that the oral resonance chamber is enlarged in front. [u:] is reduced to [u] in proclitic positions, e.g., *du bist, zu Haus, Guten Morgen* [gu'moɣjn], *Guten Tag* [gun'dax], *Guten Abend* [gu'namnt], *Gute Nacht* [gu'naɤt]; to [ə] in enclitic *du, e.g., hast du* [hasdə], *wenn du* [vendə].

Front and front-round Vowels.

The centre from which front and front-round vowel articulation emanates is situated, like that of back-round vowel articulation, in the main portion of the tongue, in the back rather than in the middle. But the tendency of front and front-round vowels is centrifugal, as contrasted with the centripetal character of back-round vowels. From the position of rest, the tongue is raised, the main portion is broadly swelled and spread out under the palatal arch, the blade hollowed out from below and curved forward in front, the tip pointing down behind the lower front teeth.

Front Vowels.

1. Mid-front-wide [e]. It is heard in *Lebtug, Krebs, Brezel, Ems, Paket, erst, gebt*, and sometimes in *geb*. It is reduced to a glide or dropped in the weak forms of *des, denn*.

2. Mid-front-narrow raised [e:]. The curvature of the main portion of the tongue is more convex, and the angle of the jaws is smaller than in [e]. [e:] is the sound of *e* and *ä*, when long, corresponding to earlier *a*, *ä*, *e*, *ë*, *æ*, or *é*. Both [e] and [e:] occur in *nächste*. [e:] is reduced to a murmur or dropped in the weak forms of *es*, *er*, *der*, *den*, *dem*.

3. High-front-wide [i]. It is heard in *Fiedel*, *Wiesbaden*, *Titel*, *-ik* and *-it*, e.g., in *Musik*, *Granit*; *vielleicht*, *dieser*, *vierzehn*, *vierzig*, *Viertel*, *liegt*, *liegt*, *kriegt*, *kriegt*, *gekriegt*, *wieder*, and sometimes in *liege*, *kriege*. It may be dropped in proclitic *ich*.

4. High-front-narrow [i:]. It is reduced to [i] in proclitic *die*, *sie*, *wie*; to [e] in the weak forms of *sie*, *Sie*; to a glide or altogether dropped in the weak forms of *dir*, *ihm*, *ihr*, *ihn* and *ihnen* [n], *mir* and *wir* [my].

The four front vowels represent progressive shiftings of the tongue upwards and forwards. As the [e]-position itself is considerably higher than the position of rest, the total distance covered by the tongue in running through the series [e]—[e:]—[i]—[i:] is much smaller than in [o]—[o:]—[u]—[u:].

Front-round Vowels.

1. Low-front-wide-round [ɔ].
2. Mid-front-wide-round [y] (e rounded).
3. Mid-front-narrow-round [ø:].
4. Mid-front-narrow-round raised [y:] (e: rounded). This is sometimes reduced to [y] in unemphasised *über*.

In the front-round vowels, the tongue, broadly spread out, leaves no scope for lateral compression of the cheeks, which accompanies the back-round vowels, and the lips are brought together vertically, without pouting (outer rounding). The outer lip-rounding, which gradually increases in [ɔ]—[y]—[ø:]—[y:], is a less energetic and less elaborate form of lip-articulation than the inner lip-rounding of the back-round vowels. Front-round vowels are therefore easily unrounded, and front vowels are substituted dialectally for front-round vowels.

NOTE. Narrow vowels. Secondary phenomena of very energetic narrowing are: a feeling of general contraction in the back of the mouth in the case of back and back-round vowels ([a:], [o:], [u:]), tension of the lip muscles in round vowels ([o:], [u:], [ø:], [y:]), lip-spreading in front vowels ([e:], [i:]).

DIPHTHONGS.

1. [ao]. Mid-back-wide [a] + mid-back-wide-round [o]. The first element is an [a], produced by a very slight bilateral compression of the main portion of the tongue; then the tongue-compression increases and the lip-aperture decreases until the [o] articulation is reached.

2. [ae]. Outer low-back-wide [a] + mid-front-wide [e]. The tongue is first slightly retracted, but not quite so much as in [a] of *hat*, *Mann*, and then raised until the [e]-articulation is reached. The lips remain passive. The earlier *ei* is monophthongised ([e:]) in [ne:] (dialectally for *nein*). [ae] is reduced to [ə] in the weak forms of *einmal* [əmal], [əma:], *einander* [ənandɤ], and dropped in the weak forms of *ein* [n], *eine* [nə], *einem* [nm], [m], *einmal* [ma:l], [ma:].

3. [oy]. Low-back-wide-round raised [o] + low-front-wide-round raised [y]. The tongue is first slightly compressed (not quite so much as in the first element of [ao]), then released and raised towards the [y]-position. The lips move from inner to outer rounding¹.

4. [ui]. High-back-wide-round [u] + high-front-wide [i]. The tongue is more compressed and bunched up for the first element, more flattened and spread out for the second element, than in [oy]. The lips relapse from high inner rounding into passivity.

CONSONANTS.

1. [ʔ] glottal stop.

The glottal stop occurs in connection with a syllable-impulse, as on-glide of most initial vowels.

The following, however, have no glottal stop, the syllable-impulse being shifted from the vowel to the preceding consonant:

Enclitic pronouns, e.g., *will ich* [viliç], *muss es* [musəs]; *an*, *in*, *ob*, *aus*, *auf*, *um*, *unter*, *über*, *ab*, *ein*, as far as they form the second elements of compounds with *hin-*, *her-*, *vor-*, *hier-*, *dar-*, *wor-*, *war-*, *wieder-*; *an* in *wohlan*; *in* in *erinnern*, *Erinnerung*; *ein* in *allein*; *ander* in *einander*, *selbander*; *all* in *überall*; *Acht* in *in Acht*, *Obacht*, *beobachten*; *Ende* in *vollenden*, *Vollendung*, *vollends*, and sometimes in *am Ende*;

¹ [oy] is practically the rounded form of [ae] by which it is replaced dialectally: the change in the first element of the diphthong [o] > [a] is the only case in which a back-round vowel is unrounded (by giving up the very slight inner rounding of [o]), while the change in the second element [y] > [e] is merely another example of the usual dialectal substitution of front for front-round vowels.

au in *Friedenau*, *Amönau*, *Röddenau*, *Rabenau*, etc.; *Abend* in *Guten Abend*.

Popular etymology is responsible for the glottal stop in *Hebamme*.

2. [h] aspirate.

The aspirate occurs, in connection with a syllable-impulse, as on-glide of vowels, (1) in the absolute beginning of syllables, as in *Hausherr*, (2) after stressed initial [p] (aspiration), as in *Pein*, *Post*. Unstressed *he* of *her-* and *hi* of *hin-* are dropped in colloquial use, e.g., *herein* [ɣaen], *hinaus* [naos].

3. [ɣ] back-lateral-voice¹; [x] back-lateral.

[ɣ] and [x] are the furthest back of my oral consonants, the fricative noise being produced by the expired air at its very entrance from the pharynx into the oral cavity, between the raised back of the tongue and the posterior boundary of the soft palate. As the back of the tongue is raised it lifts up the uvula so that the latter, supported by the tongue, bisects the expiratory channel. The height of the tongue and the area of its contact with the uvula depend on the energy of articulation. In a lenis [ɣ]² the slightly raised tongue only just touches the end of the pendant uvula, but in a fortis [x] the back of the tongue is considerably raised, and the whole of the lower surface of the uvula rests upon it, while fortis [ɣ] and lenis [x] represent intermediate stages. (In my own pronunciation the uvula, when thus supported by the raised back of the tongue, is not stretched forward in the medial line, but more or less turned to the left so that a wider expiratory channel remains open on the right than on the left side.)

Retraction of the tongue is not an essential feature of the [ɣ]- and [x]-articulations, but merely an accessory phenomenon after [a] and [a:], and so is the bilateral compression of the tongue after back-round vowels. After front and front-round vowels the tongue is raised at the back and flat in front.

After rounded vowels [ɣ] and [x] partake of the lip-rounding and are therefore lip-modified back-laterals, in the production of which the lip-rounding is prior in time, but the tongue-articulation the pre-dominant feature.

¹ Cp. H. Mutschmann, 'My pronunciation of German r,' *Modern Language Notes*, xxiii, 3, pp. 67—69.

² The intensity of a non-stopped consonant being greater after a stressed short vowel than in any other position, we call [ɣ] [x] 'fortis' after a stressed short vowel, otherwise 'lenis.' Cp. Bremer, *Deutsche Phonetik*, § 98.

[x], spelt *ch*, is liable to be reduced to [ɣ] when medial between [u:], [ao] and a vowel or nasal, e.g., *such einmal* [su:ɣəma:], *suchen* [su:ɣn], *brauchen* [br̥aɔɣn]; also in proclitic *nach* before [ʔ], [h], [n], [l], [m], e.g., *nach Altona, nach Hamburg, nach Nauheim, nach London, nach Marburg*.

Corresponding to South German back-stop after a back or back-round vowel, we have (1) [ɣ] medially before a vowel, [ɣ], [l], or nasal, e.g., *Auge* [aɔɣə], *Tag und Nacht* [da:ɣu'naxt], *sag ich* [sa:ɣiç], *lager* and *Lager* [la:ɣɣ], *Vogel* [fo:ɣl], *sagen* [sa:ɣn]; (2) [x] before voiceless final consonants and at the absolute end of syllables, e.g., *sagt, sagst, Jagd* [jaxt], *jagt* [ja:xt], *Magd, behagt, taugt, Vogt; Tag, Tagelöhner, Wagner, zagten, Aug' um Aug', genug* [gənux], *Zug, Zugluft*.

Corresponding to older point-trill, we find (1) [ɣ] before vowels, [ʔ], [h], [ɳ], [j], [l], [n], [v], [m], [bm], e.g., *Laura, uralt* [ʔuɣʔalt], *Narrheit, kerngesund* [keɳgəsunt], *borge* [boɳjə], *Kerl, Hirn, Erbe* [eɳvə], *arm, erben* [eɳbm]; (2) [x] before [k], [g], [ç], [s], [ʃ], [t], [f], [p], [b] (except [bm]), e.g., *Mark* [maxk], *Herrgott* [hexgot], *Kirche* [kiçə], *Vers* [fexs], *herrschen* [hexfn], *hart* and *harrt* [haxt], *scharf* [ʃaxf], *Korb* [koxp], *Marburg* [maxbuç]. Before [d] we have [ɣ] in lenis-position, e.g., *Erde* [e:ɣdə], but [x] in fortis-position, e.g., *Karte* [kaxdə].

There is no difference in the pronunciation of (1) *Wacht* and *ward* [vaxt], *mocht* and *Mord* [moxt], *Wucht* and *wurd'* [vuxt] (fortis x); (2) *behagt* and *behaart* [bəha:xt] (lenis x); and (3) *Wagen* and *waren* [va:ɳn], *behagen* and *behaaren* [bəha:ɳn], *saugen* and *sauren* [saɔɳn], *bogen* and *bohren* [bo:ɳn], *verlogen* and *verloren* [fɣlo:ɳn] (lenis ɣ), unless *g* under (3) is raised to a sound intermediate between [ɣ] and [x] in order to prevent mistakes.

Lenis [ɣ] is dropped at the end of a breath-group so that only the preceding murmur-vowel remains, e.g., *Es geht ihm schon besser* [sge:dm ʃom besə].

Fortis [ɣ] at the end of a breath-group is readily raised to [x], especially in exclamations and when otherwise used emphatically, e.g., *Mein Herr! Du Narr! Er hat einen Katarrh*.

[ɣəɣ] > [ɣɣ] (= [ɣ:] with a fresh syllable-impulse within it), e.g., *Lehrer* [le:ɣɣ].

[ɣɣ] > [ɣ], e.g., *Fahrrad* [fa:ɣa:t], *nach Rom* [na:'ɣo:m], *verraten* [fəɣa:dn]¹.

¹ In all cases where identical or approximately identical consonants are contiguous, the immediate repetition of the articulatory movements is avoided as inconvenient and the two consonants merge into one. Cp. Winteler, *Die Kerenzer Mundart*, p. 131.

4. [ŋ] back-nasal-voice; [g], [k] back-stops.

The main portion of the tongue is bunched up lengthways by bilateral compression beyond the [u:]-elevation, until in complete contact with the roof of the mouth. Even in the articulation of inner [ŋ], [g], [k], before and after back and back-round vowels, the tongue rises well up on the palatal arch, and in the neighbourhood of front and front-round vowels, the place of the stop-formation lies still further forward.

The essential difference between [k] and [g] lies in the greater air-pressure and stronger articulation of [k]. No effort is made to distinguish between initial *kr* and *gr*, *kl* and *gl*, *kn* and *gn*.—Medially before voiced sounds, all back-stops are levelled to [g], e.g., *Lücke* [lygə], *Roggen* [ʁogŋ], *Ekel* [e:gl], *Paket* [pa:et], *Balkon* [bal'gŋ].—*Kuckuck* is pronounced [guguk].—*ch* before superlative *-st* is pronounced [k], e.g., *höchst*, *nächste*.

[kk], [kg] > [k], e.g., *zurückkehren* [tsu'ʔyke:ʁŋ], *Rückgrat* [ʔykʁa:t].

Combinations of back-stops with back-nasals. One oral stop-formation serves for two, three, or four sounds in combination, a nasal plosive being substituted for a back-stop before [ŋ], e.g., *Dank* [danʔ], *angenehm* [anɡəne:m], *Haken* [ha:gŋ], *Roggen* [ʁogŋ], *Brückenkopf* [bʔyɡŋkopf], *Brückengeländer* [bʔyɡŋɡələndɐ], *denken* [deŋŋ], *Gedankenkreis* [ɡədəŋŋkʁʏəs], *Gedankengang* [ɡədəŋŋɡaŋ].

The back-stop is dropped between [ŋ] and [s], [ʃ], [t], e.g., *links* [lɪŋs], *links schwenkt* [lɪŋ ʃvɛŋt].

5. [j] front-open-voice; [ç] front-open.

The main portion of the tongue, expanded under the hard palate, is advanced and raised beyond the [i:]-position, until the air-opening is reduced to a friction channel.

After front-round vowels [j] and [ç] partake of the outer lip-rounding and are therefore lip-modified front-open consonants, in the production of which the lip-rounding is prior in time, but the tongue-articulation the predominant feature.

Corresponding to South German back-stop we have after a front or front-round vowel, [ʏ], or [ɪ], (1) [j] medially before a vowel, [ʏ], [ɪ], or nasal, e.g., *Wege*, [ve:jə], *lieg ich* [li:jɪç], *ärger* [ɛ:ʝɐ], *Hügel* [hy:jɪ], *balgen* [bal:jŋ], *Morgen* [mo:ʝŋ]; (2) [ç] before voiceless final consonants and at the absolute end of syllables, e.g., *legst*, *Kriegs*, *vergnügt*, *borgt* [bo:çt], *balgt*; *weg*, *Weg*, *wenig*, *König*, *Sieg*, *arg* [a:ç], *Balg*.

For *regnet* we find [ɣe:çnət] or [ɣe:jnt], according to syllable division; similarly, *eigner* [æçnɣ] or [æejənɣ]; etc.

Asyllabic front vowels are replaced by [j], e.g., *Lineal* [linja:l], *ideal* [idja:l], *Julius* [ju:ljus], *Asien* [a:sjn], *Italiener* [italje:nɣ], *Staniol* [ʃdanjo:l], *Religion* [ɣeljo:n].

The front-open consonant is dropped in *-lich* and *-ig* before an inflectional [ə], e.g., *verherrlichen* [fɣ'hɛɣliən], *herzliche* [hɛxtslɪə], *heiligen* [haeliən], *heiliger* [haeliəɣ].

[ç] is dropped colloquially in *nicht* [nit]; [çt] > [k] in *nichts* [niks].

6. [s] blade-open.

A narrow friction-channel is formed by broadening the blade of the tongue under the alveolar arch, allowing the tip to rest against the upper gums, while the teeth are very nearly closed. Shifting occurs from inner to outer [s], e.g., in *säuseln*.

[ss] > [s], e.g., *aussehen* [aose:n].

[sʃ] > [ʃʃ] > [ʃ], e.g., *Hausschlüssel* [haoʃlysl], *Aussprache* [aofbɣa:xə], *was Schönes* [va ʃφ:nəs].

[stʃd] > [ʃd], e.g., *Kunststück* [kunʃdyk].

7. [ʃ] lip-modified blade-open.

The alveolar friction-channel of [s] is somewhat widened, the blade and point of the tongue being lowered. The lips are protruded as far as possible, so that while laterally pressing against the teeth, they are considerably removed from the front teeth. The cheeks and lips thus form, as it were, a speaking trumpet for the sound.

[ʃʃ] > [ʃ], e.g., *Waschschüssel* [vaʃʃysl].

8. [l] point-lateral-voice; [n] point-nasal-voice; [d], [t] point-stops.

The place of articulation is subject to shifting under the influence of the phonetic environment, although not to the same extent as in [ɳ], [g], [k]. The articulation is inner before the diphthongs [æ]; [oy], [ui], and outer after them, e.g., in *nein*, *deute*, *Leiter*, *Leute*, *Luitpold*.

The transition from [l] to point-nasal or point-stop is made by completing the closure which is only partial for [l], e.g., in *Köln*, *alte*. The transition from point-nasal or point-stop to [l] is made by means of lateral explosion only, instead of central and lateral, e.g., in *Anlass*, *edle*, *hoffentlich*, *entleihen*.

[ll] > [l], e.g., *Wohllaut* [vo:laot].

[l] is dropped in the weak forms of *einmal* [əma:], [ma:].

Non-initial [n] is assimilated, as regards place of articulation, to

preceding or following back-nasal or back-stop ([n] > [ŋ]) and lip-consonants ([n] > [m]), e.g., *singen* [siŋŋ] ([ŋŋ] = [ŋ:] with a fresh syllable-impulse within it), *Haken* [ha:gŋ], *Roggen* [ɾogŋ], *Unglück* [uŋgɫyk], *ankommen* [aŋkomm], *nehmen* [ne:mm] ([mm] = [m:] with a fresh syllable-impulse within it), *Lippen* [libm], *Leben* [le:bm] with nasal plosive, *Eisenbahn* [æsmba:n], *ein paar* [m pa:ɾ], *Senf* [semf] and *laufen* [laofm], with bilabio-dental [m].

[n] is protected against the assimilative power of a back-nasal or back-stop or lip-teeth consonant by a neighbouring blade- or point-consonant on its other side, e.g., *jungen Zweig* [juŋn tsuaeç], *meinen Gästen* [maenn gestn], *den Fall* [dn fal], *laufen schon* [laofn fon].

The grammatical difference between *den* and *dem*, *in* and *im*, etc. does not prevent the assimilation of [n] > [m]. Thus I say, heedless of grammar: *Ein Eisenbahnzug setzte sich in Bewegung* [aen ʔæsmba:ntsux setstə siç im bævejuŋ], treating *in Bewegung* in the same way as *Eisenbahn*.

The assimilative tendency of [f] ([n] > bilabio-dental [m]) is overruled by the stronger assimilative power of a back-nasal or back-stop on the other side of [n], e.g., *laufen gelassen* [laofŋ gəlasn].

an, *in*, *um* are not assimilated to following [f].

[nən], [nn] > [n], e.g., *seinen* [saenn] ([nn] = [n:] with a fresh syllable impulse within it), [saen]; *ihnen*, *einen* [n], *Einnahme* [aena:mə].

Final [n] is dropped in [ne:], dialectally for *nein*.

The essential difference between [t] and [d] lies in the greater air-pressure and stronger articulation of [t].

Initial [d] may be heard in the following: *Taps*, *tappen*, *Tabak*, *Tapete*, *Tante*, *Tanz*, *tanzen*, *Tasse*, *Tasche*, *Tambour*, *Tag*, *Taler*, *Tafel*, *taub*, *Taube*, *taugen*, *tauchen*, *tausend*, *tauschen*, *taufen*, *Teich*, *Teig*, *toll*, *Topf*, *Tochter*, *Tolpatsch*, *teuer*, *Teufel*, *Tod*, *tot*, *toben*, *Tusch*, *Tusche*, *Tüte* [dudə], *tunken*, *tun*, *Teller*, *Teppich*, *Tisch*, *Tinte*, *Tippelchen*, *tief*, *tüchtig*, *Tür*.

Initial *st*, as in *Stein*, *gestehen*, has the value of voiceless [ʃd].

No effort is made to distinguish between initial *tr* and *dr*.

Medially, before voiced sounds, all point-stops are levelled to [d], e.g., *retten* [ɾedn], *raten* [ɾa:dn], *laden* [la:dn], (*Apotheke* [abo'de:gə], *Bibliothek* [biblio'de:k]).

Combinations of point-stops with point-nasals. One oral stop-formation is kept throughout the combination, with nasal instead of oral plosive before [n], e.g., *Hand*, *Linde*, *bitten* [bidn], *Rattentod* [ɾadnto:t], *Guten Tag* [gu:dn'da×], *Renten* [ɾendn], *Linden* [lindn], *entnehmen*

[entne:mm], *Bündner* [byndnɣ], *Rententeil* [ɣendntael], *Lindenduft* [lindnduft].

[dɐt] > [t] in *schadet* [ʃa:t], [ʃat], *kostet* [kɔst].

[tt], [td] > [t], [d], e.g., *mitteilen* [mitaɛln], *Notdach* [no:da×], *hast du* [hasdə].

[ndn] > [nn] > [n]: *in den* [indn], [inn], [in], *an den* [andn], [ann], [an].

[dn], [də-n] > [n]: *den, denn* [n], *Guten Tag* [gun'da×], *Guten Abend* [gu'na:mnt], *Gute Nacht* [gu'na×t], and, through assimilation of [n] to [m], *Guten Morgen* [gu'moɣjn].

[dm] > [m]: *dem* [m].

[lts] > [ls], e.g., *Salz* [sals], *hältst* [helst].

[nts] > [ns], e.g., *Landsmann* [lansman], *ganz* [gans].

[ntʃ] > [nʃ], e.g., *Handschuh* [hanʃu:].

The point-stop can be dropped in *ich werd'* and *wir, sie werden*.

The final point-stop is dropped in unemphasised *und, ist, sind, jetzt* (the older form), *braucht*.

A final point-stop is sometimes dropped in rapid conversation before [gə-], e.g., *Hast du den Hans nicht gesehen?* [hasdə dn hans ni gəse:n?]

9. [v] lip-open-voice or lip-teeth-open-voice; [f] lip-teeth-open.

Three articulations of [v] occur:

(1) bilabial, i.e., the lips are brought together vertically beyond the outer-lip-rounding of [y:], forming a slit-shaped friction-channel for the expired air;

(2) bilabio-dental, i.e., the lower lip, slightly retracted, is in contact both with the upper lip and with the edge of the upper front teeth;

(3) labio-dental, i.e., the central portion of the lower lip is entirely withdrawn from the upper lip and pressed against the edge of the upper front teeth.

Bilabial [v] is the sound of medial b, preceded and followed by a vowel, [ɣ], or [l], e.g., *habe* [ha:və], *über* [y:vɣ], *Nebel* [ne:vl], (*kapabel, kurabel*); *Erbe* [ɛɣvə], *Elbe* [elvə], *derber* [deɣvɣ], *Wirbel* [viɣvl], *albern* [alvɣn], *Vilbel* [filvl], *hab ich* [ha:viç], *Schreiber* and *schreib ihr* [ʃɣaevɣ], *Obacht, beobachten, Tabak, Übung, lebendig, Lebendigkeit, Arbeit, salbungsvoll*. Before a distinct vowel-quality there is, however, a tendency to fall into the spelling pronunciation of b as a stopped consonant. The stop prevails in *Habicht* (dialectal *Hobch*), *Kibitz* and proper names, e.g., *Laban*.

Bilabial [v] is further the established form of the V-sound after [k] and [ts], e.g., in *Quelle, Hackwalzer, zwei, Zwang, Kurzwaren*.

[v] after [f], as in *aufwärts*, is, of course, labio-dental.

Except in these cases, the provinces of bilabial, bilabio-dental, and labio-dental [v] are not rigidly defined in my speech.

Final [vn] > [bm], with nasal plosive, e.g., *Löwen* [lφ:bm].

[ff] > [f], e.g., *Schiffahrt* [ʃifa:xt].

10. [m] lip-nasal-voice or lip-teeth-nasal-voice; [b], [p] lip-stops or lip-teeth-stops.

The articulation of [m], [b], [p] in the neighbourhood of [v], e.g., in *am Wehr, abwärts*, can be bilabial or bilabio-dental, like the articulation of [v]; in the neighbourhood of [f] it is always bilabio-dental, e.g., in *laufen* [laofm], *am Feuer, Kampf* [kamf], *abfahren* [apfa:ɣn].

[məm] > [mm] (= [m:], with a fresh syllable-impulse within it), e.g., *lahmem* [la:mm]¹.

[mm], [nm] > [m], e.g., *am Meer* [a'me:ɣ], *unmöglich* [umφ:çliç], (*seinem* [saem]).

[bnd], [bnt] > [mnd], [mnt]; owing to premature opening of the nose passage, e.g., *lebendes* [le:mndəs], *Abend* [a:mnt], [n] being protected by the point-stop against the assimilative power of [m].

The essential difference between [p] and [b] lies in the greater air-pressure and stronger articulation of [p].

Initial [p] before a vowel is aspirated.

Initial [b] may be heard in the following:—*Papa, Papier, Pappe, puppen, passen, passieren, patschen, paff* (sprachlos), *paperlapapp, pardanz, Peitsche, Partei, Partie, -possen, -polstern, potztausend, Portion, Poree, pumpen, putzen, purzeln, puffen, Puffärmel, Puppe, Pulle* (Flasche), *-pelz, -pinsel, -pinseln*.

Initial *pf* has the value of [f], e.g., *Pfund* [funt].

Initial *sp*, as in *spitz, besprechen*, has the value of voiceless [ʃb].

No effort is made to distinguish between initial *pr* and *br*, *pl* and *bl*.

Medially before voiced sounds the lip-stops are levelled to [b], e.g., *Lippe* [libə], *Ebbe* [ebə], (*Apotheke* [abo'de:gə], *Teppich* [debiç], but [p] in *Apostel, Epistel*).

Combinations of lip-stops with lip-nasals. One oral stop-formation is kept throughout the combination, with nasal instead of oral plosive

¹ *lahm* [la:m], *laben* [la:bm], *lahmem, laahmen* [la:mm].—*Raum* [ɣaom], *rauben* [ɣaobm], *rauhem* [ɣaom].

before [m], e.g., *Lump*, *anpassen* [ampasn], *ein paar* [m pa:ɣ], *September*, *anbeissen* [ambaesn], *Eisenbahn* [aesmba:n], *Lippen* [libm], *Tropen* [tyo:bm], *Leben* [le:bm], *Löwen* [lφ:bm], *Lippenpaar* [libmpa:ɣ], *Lampen* [lambm], *Bomben* [bombm], *der Lump muss*, *Lumpenpack* [lumbmpak], *Lampenbeleuchtung* [lambmbəloyçduŋ].

[pp] > [p], e.g., *abpassen* [apasn].

[pb] > [b], [p], e.g., *Abbitte* [abitə], *abbrechen* [apɣeçn].

[mpf] > [mf], e.g., *Kampf* [kamf].

Nasal plosive + [m] > [m], e.g., *gib mir* [gimɣ].

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