

A QUANTITATIVE STUDY OF SOUND CHANGE IN PROGRESS

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Volume II

Diagrams

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Introductory Note to the Figures

Volume II of this report contains all of the figures referred to in Volume I. The two-volume format is designed so that readers may refer simultaneously to the text and to the graphic presentation of vowel systems as they read.

The Table of Contents shows the organization of this volume. The base diagrams, Figures 1-54, show more or less complete vowel systems for the principal informants. Following this are more specific diagrams for each chapter, numbered Figure 3-1, 3-2, etc., and the diagrams for Appendix A. Finally, there is an index which shows the location in Volume I of references to each figure. In addition, the index to Volume I lists references to informants by name.

All diagrams show two-formant plots with F1 increasing from top to bottom on the vertical axis, and F2 increasing from right to left on the horizontal axis. Both axes are linear. The base diagrams all show the same range: 300 to 1025 for F1, 750 to 2720 for F2. Thus the base diagrams show the relative location in the two-formant space of the overall vowel systems of males and females from various dialect areas. Adult males are of course generally located in the lower areas of F1 and F2, towards the upper right corner (Fig. 1, 29, 35, 38), and some females in the lower left (Fig. 22, 23, 30). But as noted several times in the text, there are some women who have vowels with as low formants as any man, showing /uw/ at F1-300, F2-700 (Fig. 9), and many women who utilize almost all of the formant space shown here (Figs. 6, 8, 41, 49).

Methods for measuring vowels are given in Chapter 2. Note that the margin of error ranges from ± 25 Hz to ± 50 Hz, so that even individual points may be conceived as small ellipses with those diameters. This should be borne in mind in studying the significance of the differentiation of vowel placements in the two-formant space.

The diagrams for the later chapters vary in their F1, F2 ranges. A few do not show the numerical axes (Fig. 3-20, 4-15, 4-16, 6-1). But all are drawn to the same scale except Fig. 6-5, where the scale is doubled.

The ellipses for the base diagrams and for Chapter 4 show the outer envelope of the vowels measured. Since the number of points plotted for each vowel varies (see Chapter 2, page 24), the size of the ellipses is not significant except where the individual points are plotted (as in Fig. 28). The significant data are the relative locations of the ellipses, and to a lesser extent, their shape. In the base diagrams, there are some individual vowel points indicated: for individual points outside the main group, for certain conditioned allophones, or in some cases where one ellipse would obscure the others.

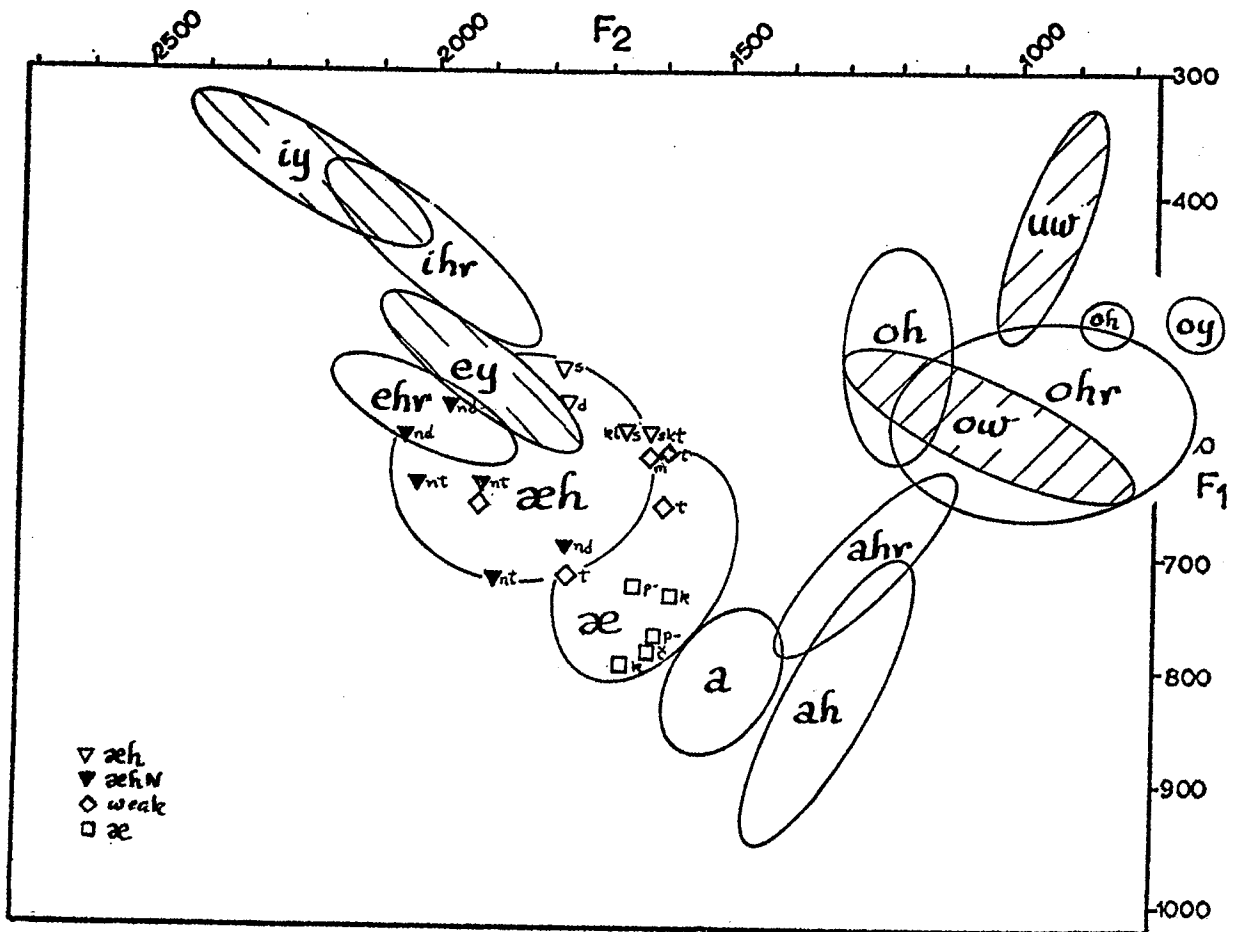
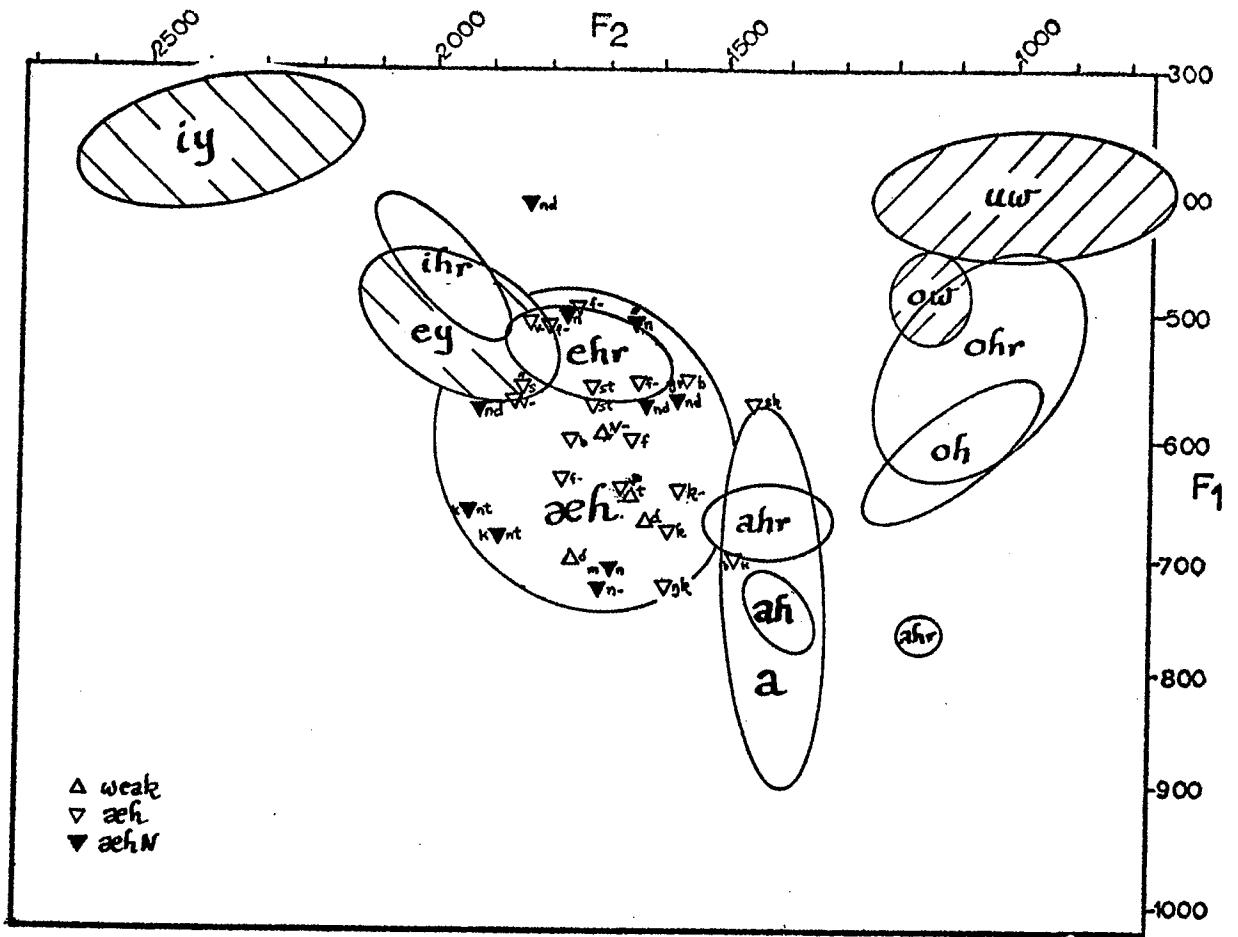
The notation for identifying the ellipses and points plotted is explained on page 46 of Chapter 3. In general, these symbols identify classes of words, and have no direct relation to the phonetic realization of the vowels on the diagram. The notation is not the abstract morpho-phonemic classes which take into account grammatical alternations, but is closer to the level of "autonomous phonemics" without any commitment to this as a systematic and consistent set of representations. This notation shows the lowest common denominator of phonetic development for the majority of English dialects: it is the jumping-off point or staging area for most of the sound changes we are considering. At the same time, we have included some dialects which have not reached that point: where we have monophthongal /i:/ for the reflex of E.M.E. ē, /u:/ for E.M.E. ū, or in some environments monophthongal /e:/ for E.M.E. ā and ay (see Figs. 25, 26).

There are three variant ways of noting the short o class. In New York City we use /a/, since there the short o has been split into an /a/ and /ah/ class, and the second identified first with broad a and then with /ahr/. Elsewhere, we use the symbol /o/, except in Norwich (Figs. 33-37). There we have an opposition of /ɔw/~ow/; since the short o class is clearly to be identified with the nucleus of the former it is accordingly shown as /ɔ/. In other cases we use /o/, even where there exists an /ɔhr/~ohr/.

The shading used in the diagrams indicates the direction of front and back upglides, at a relatively abstract level: we do not attempt to distinguish the monophthongization of /ay/ and /aw/ in Southern dialects in this shading pattern. But there are a number of cases where the back upglide has been fronted. Here we use vertical shading to indicate this important distinction

(Figs. 33-37, 33-45). For a more detailed account of the directions of such glides, see Figs. 4-15, 4-16.

The pages in Volume II are not numbered successively. Instead, the number of each diagram is shown at the upper right corner of the page; where there are two diagrams on a page, the number of the lower one is shown at the lower right corner. Thus all diagrams can be located without rotating the volume or referring to a separate table of contents.



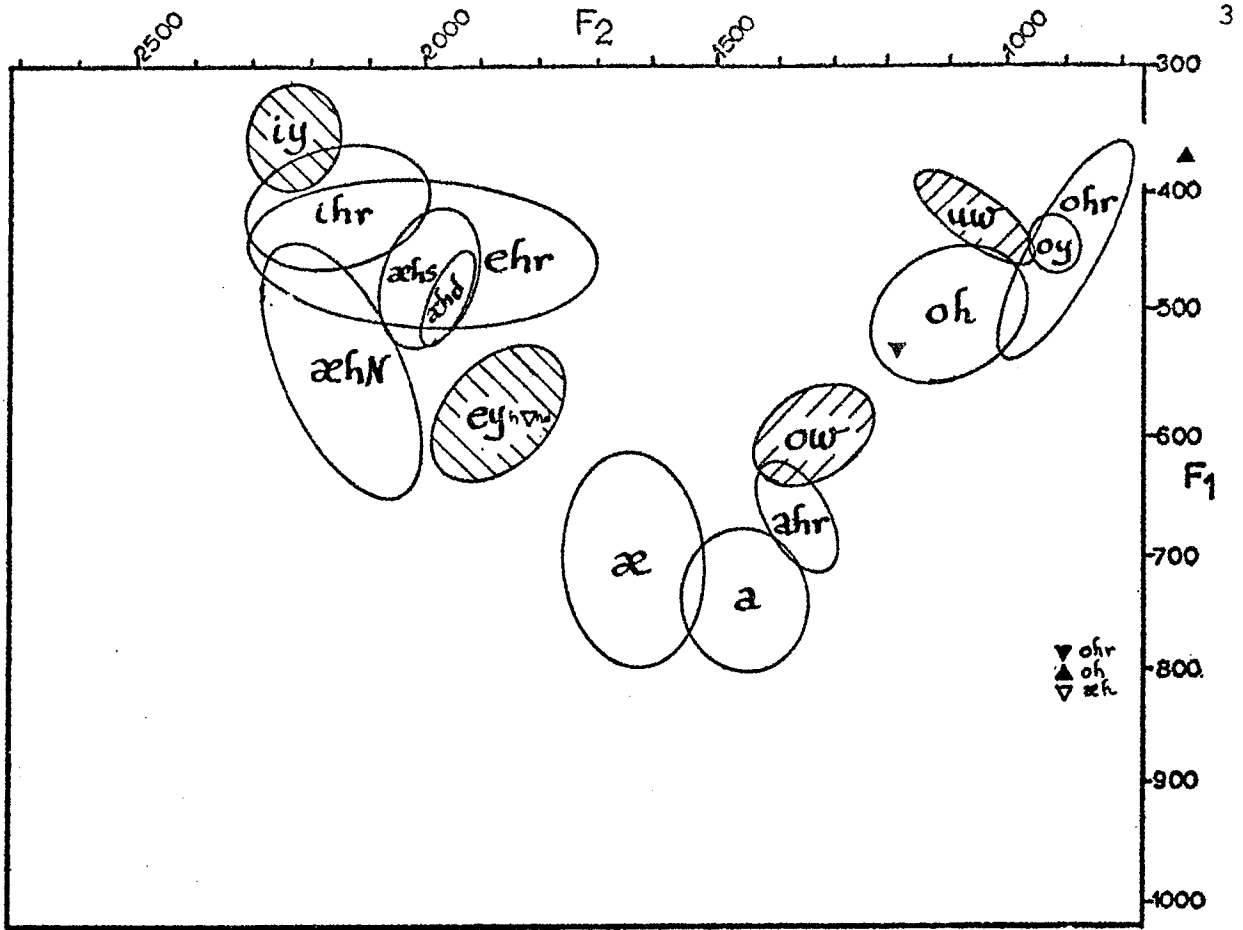


Figure 3. Leon Alinsky, 35, New York City.

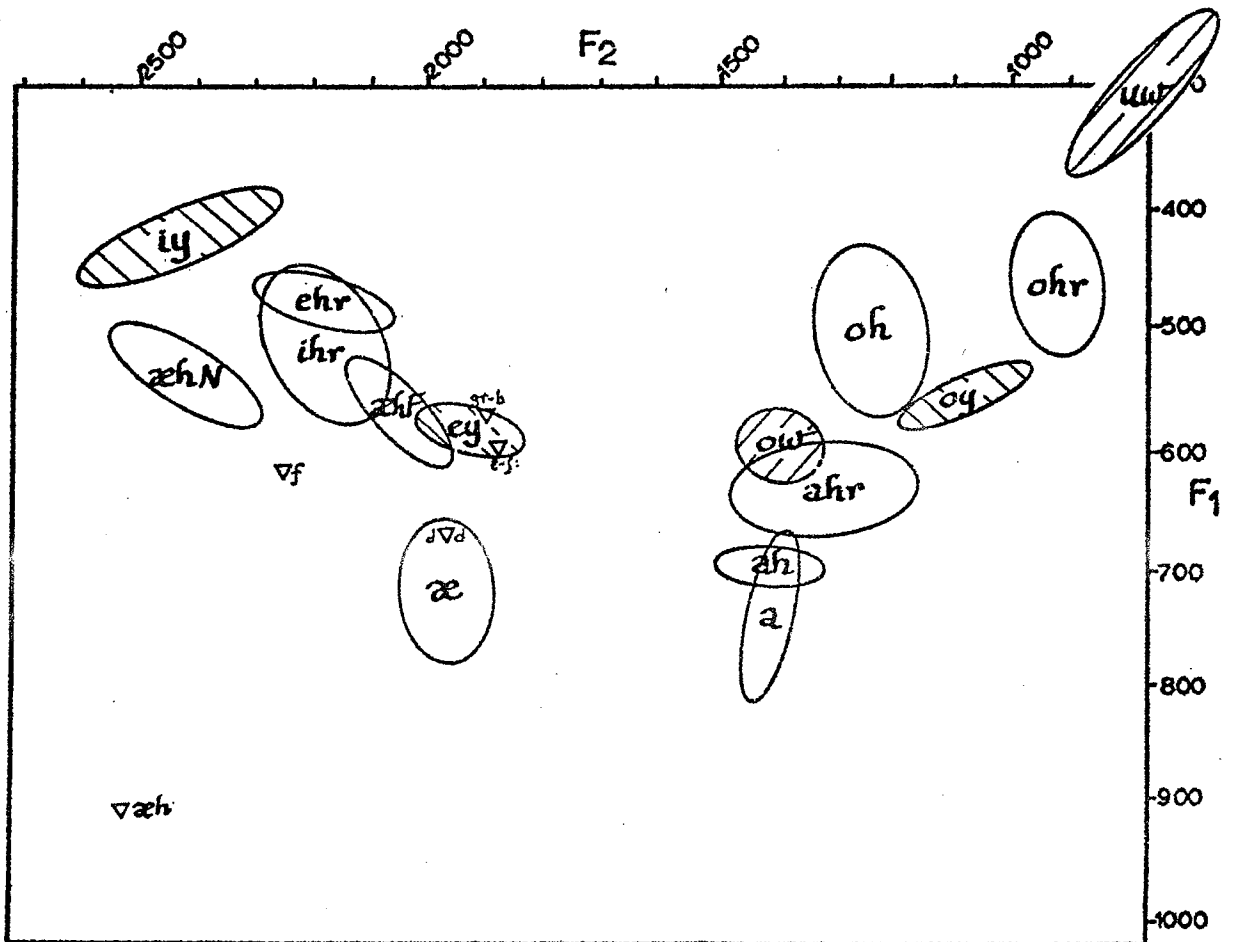


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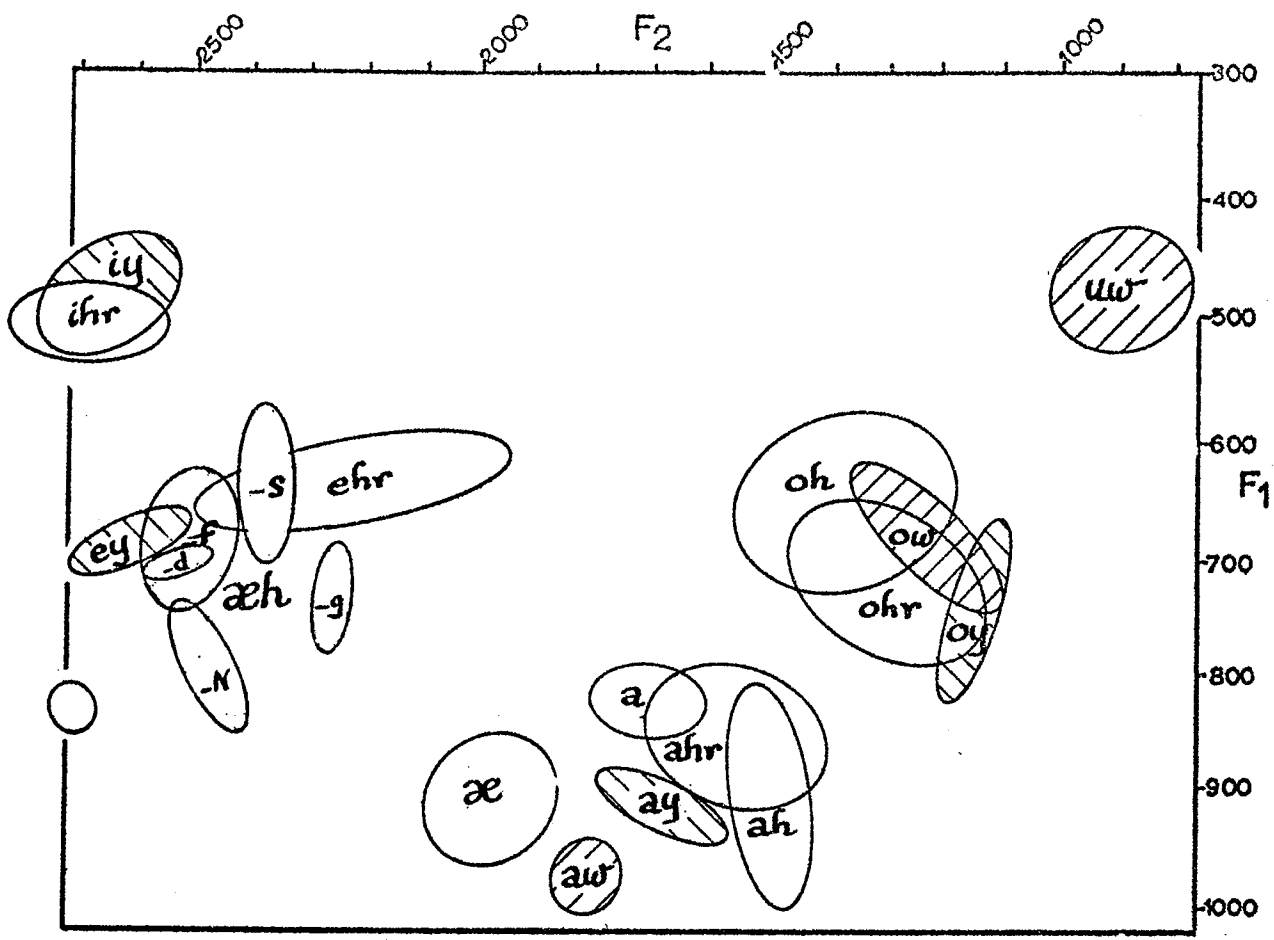


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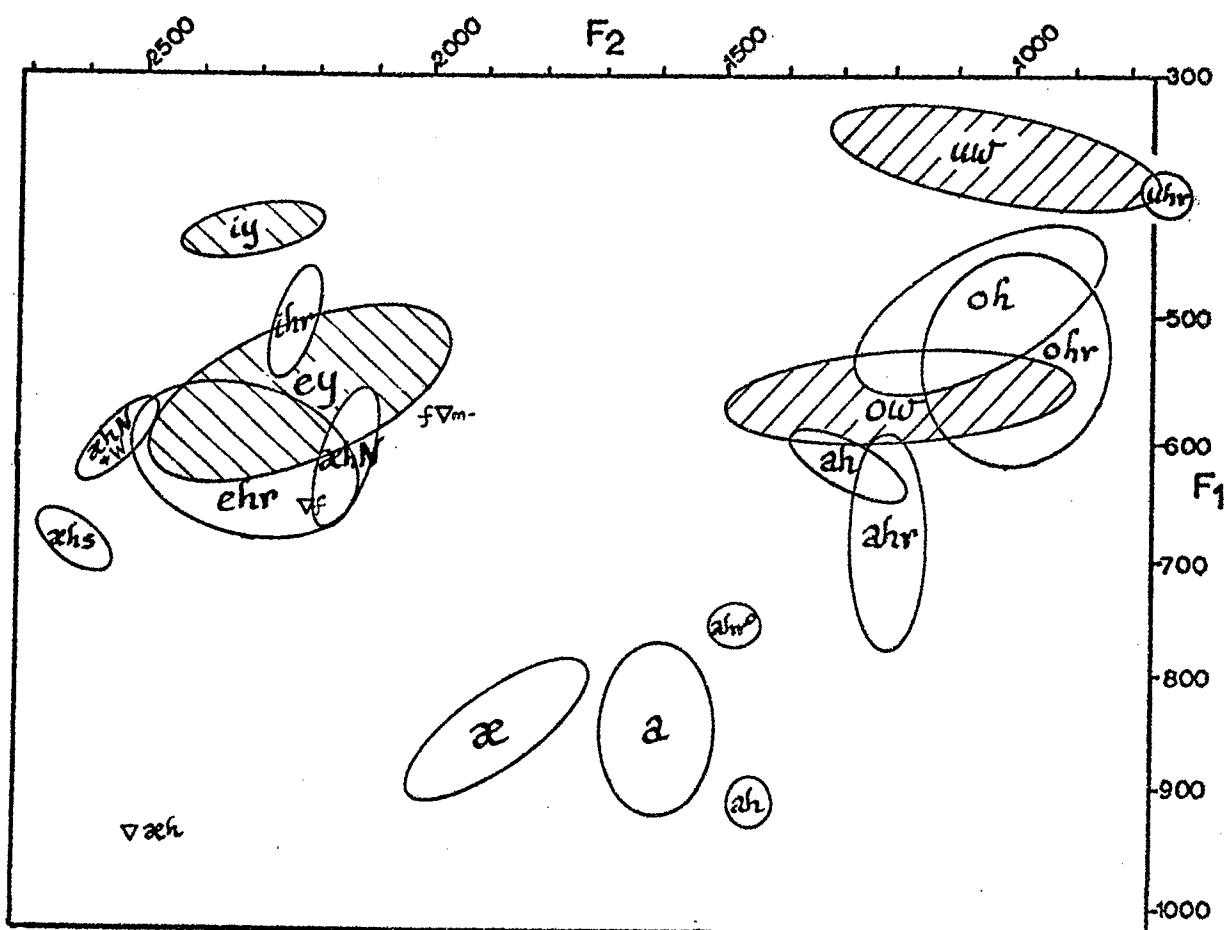


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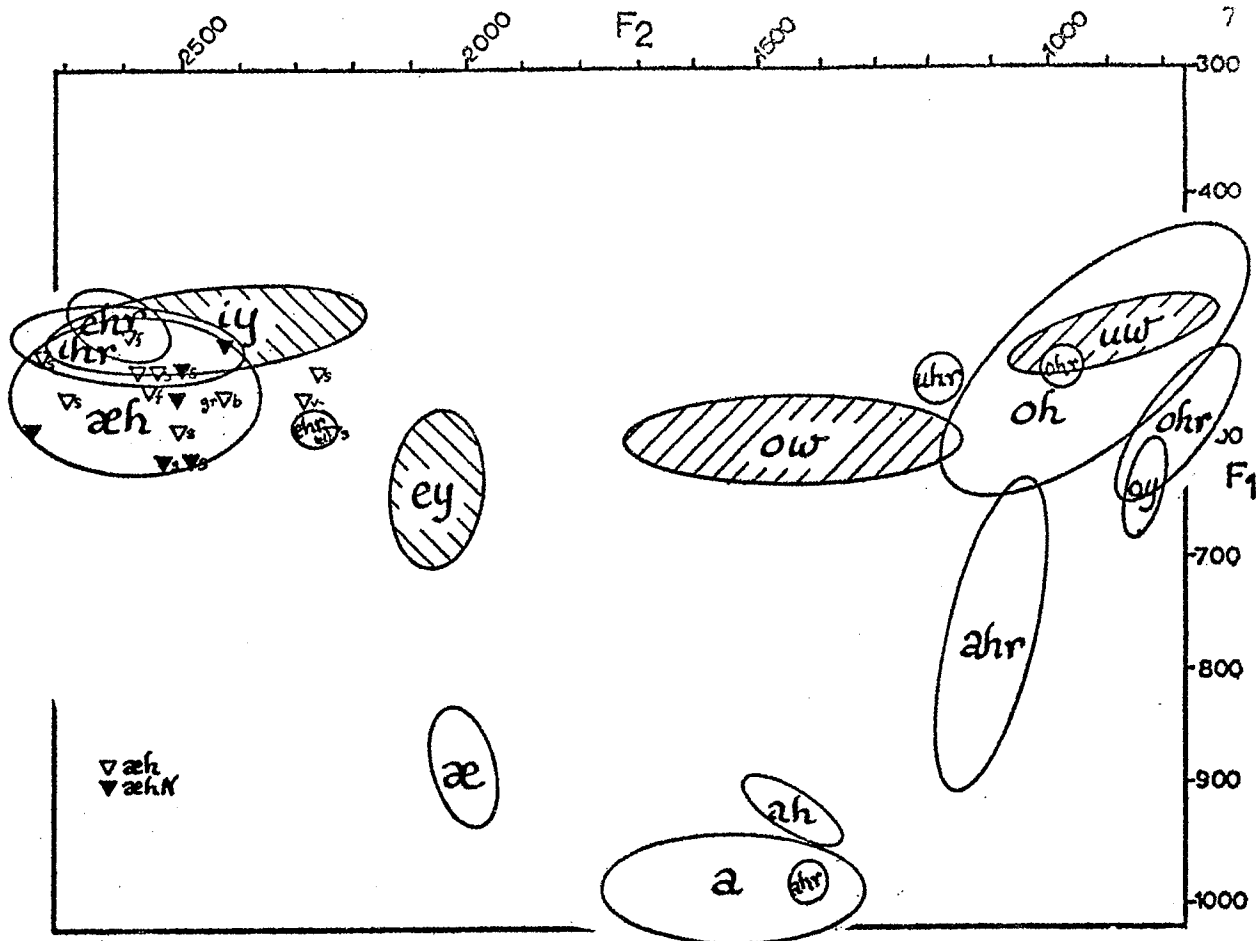


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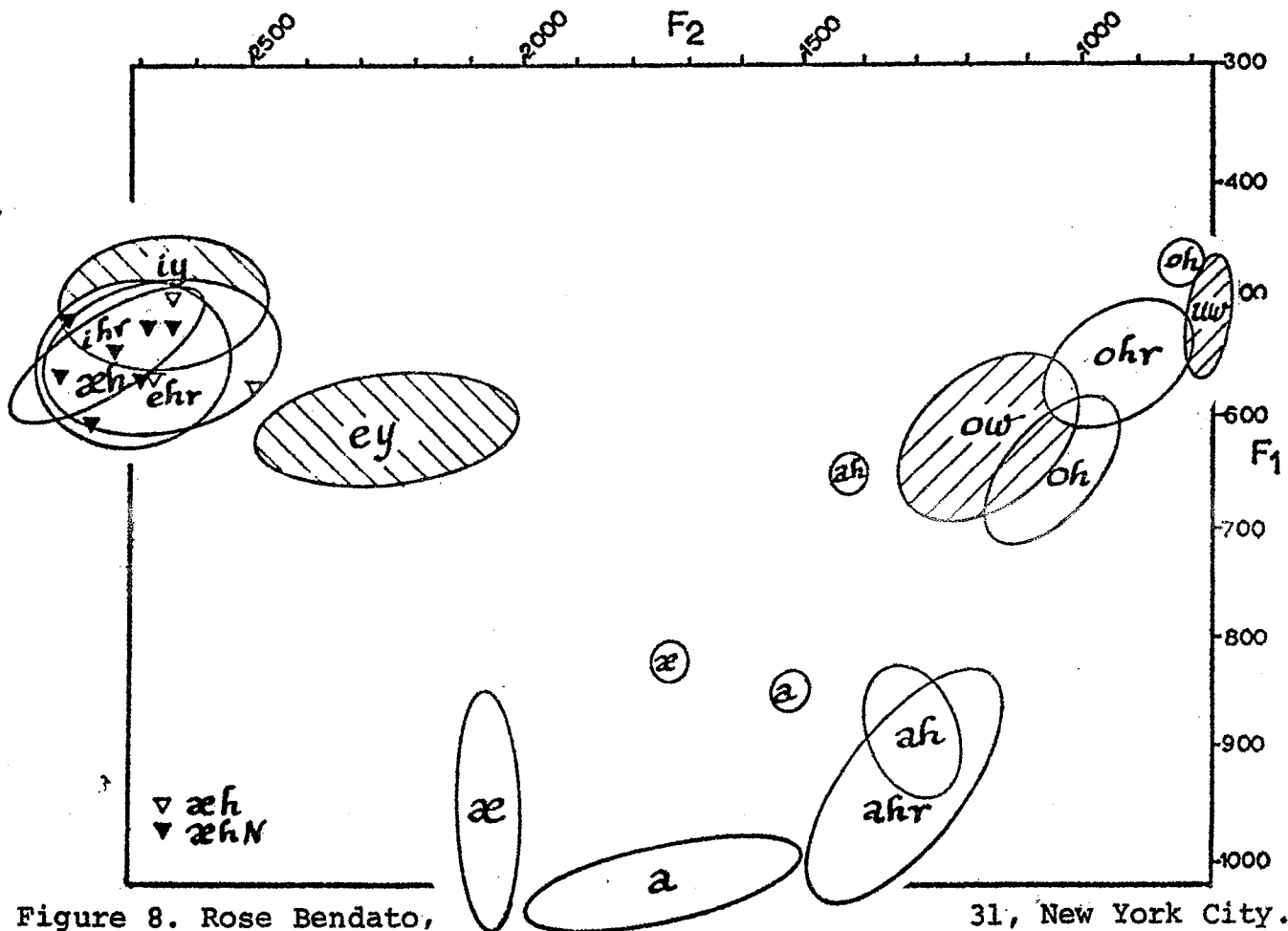


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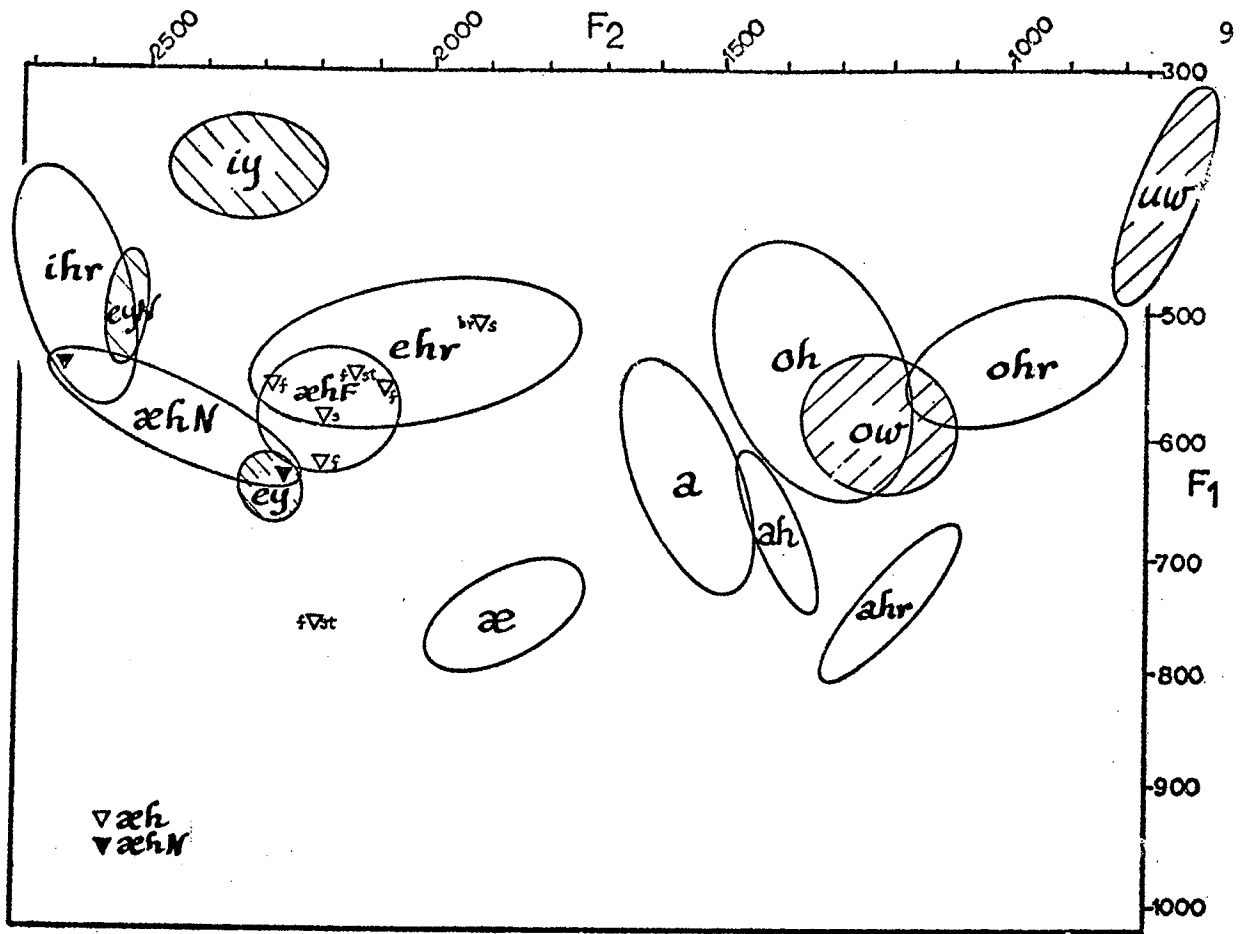


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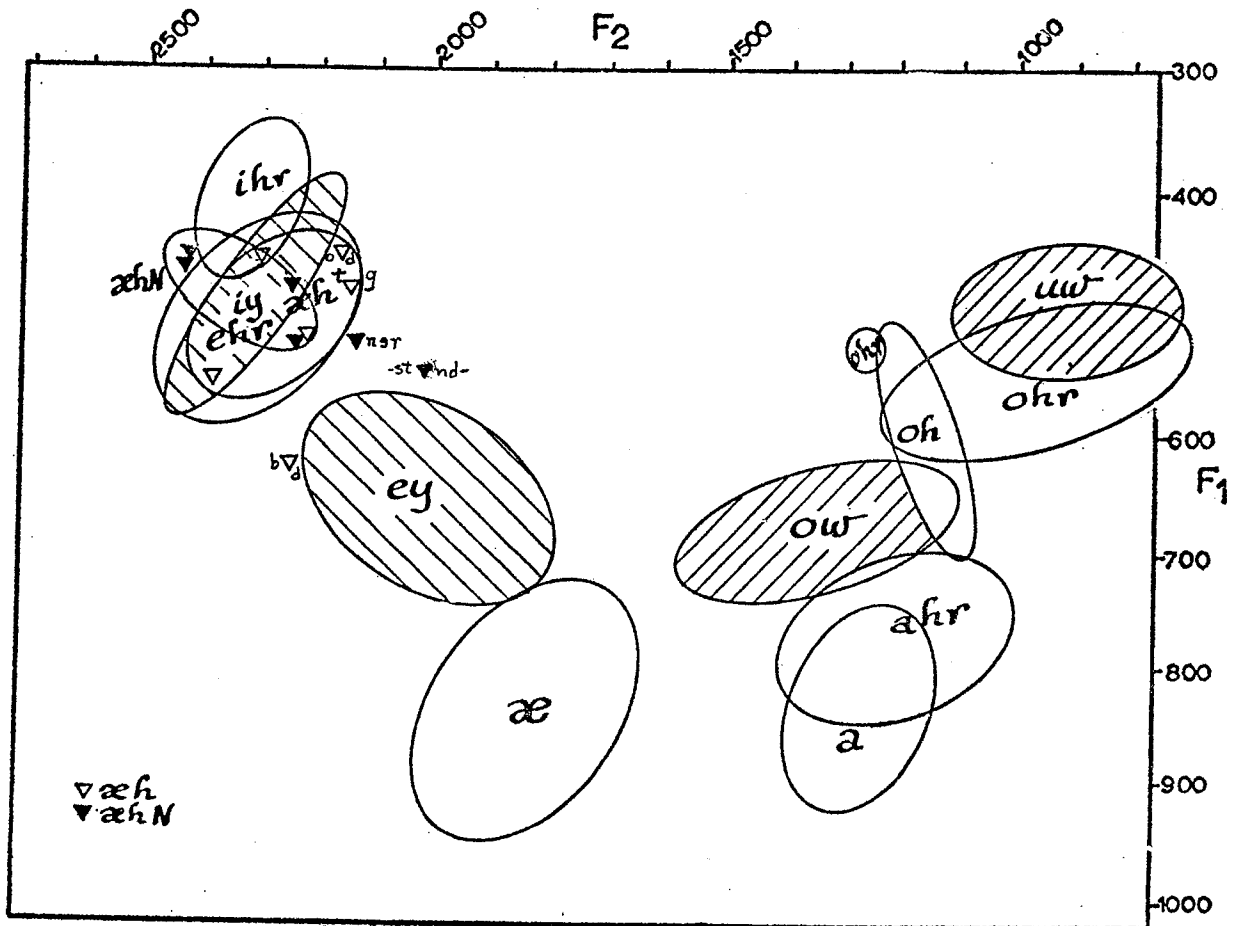


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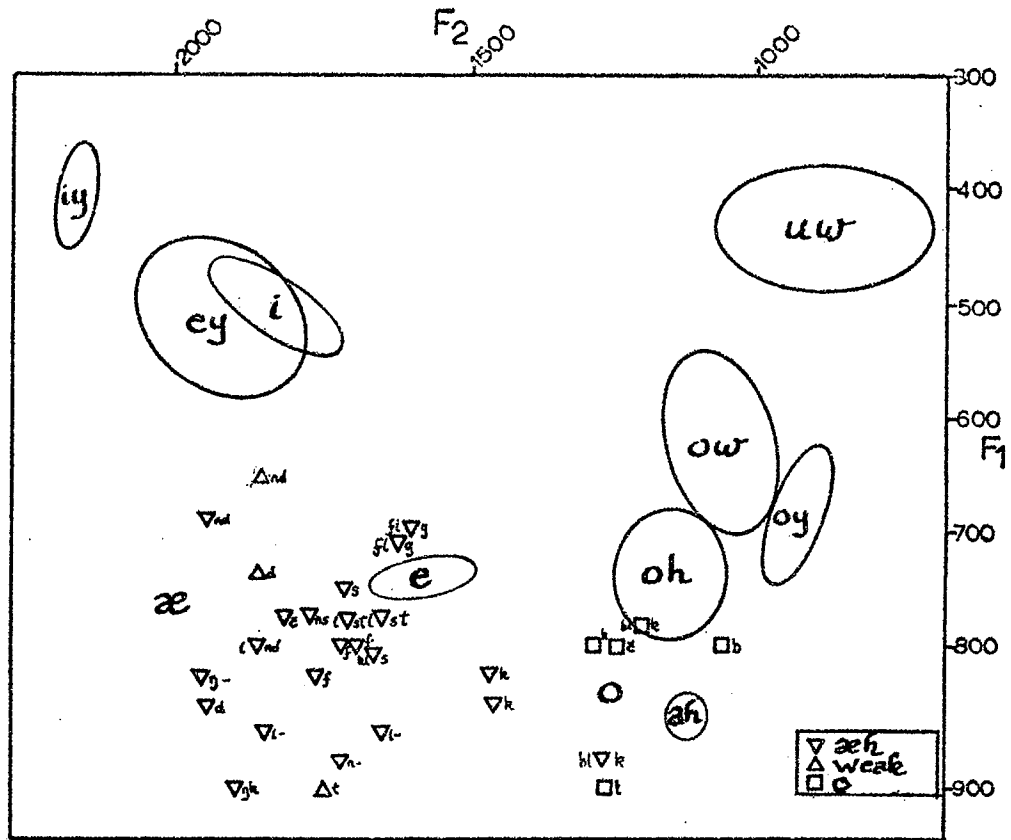


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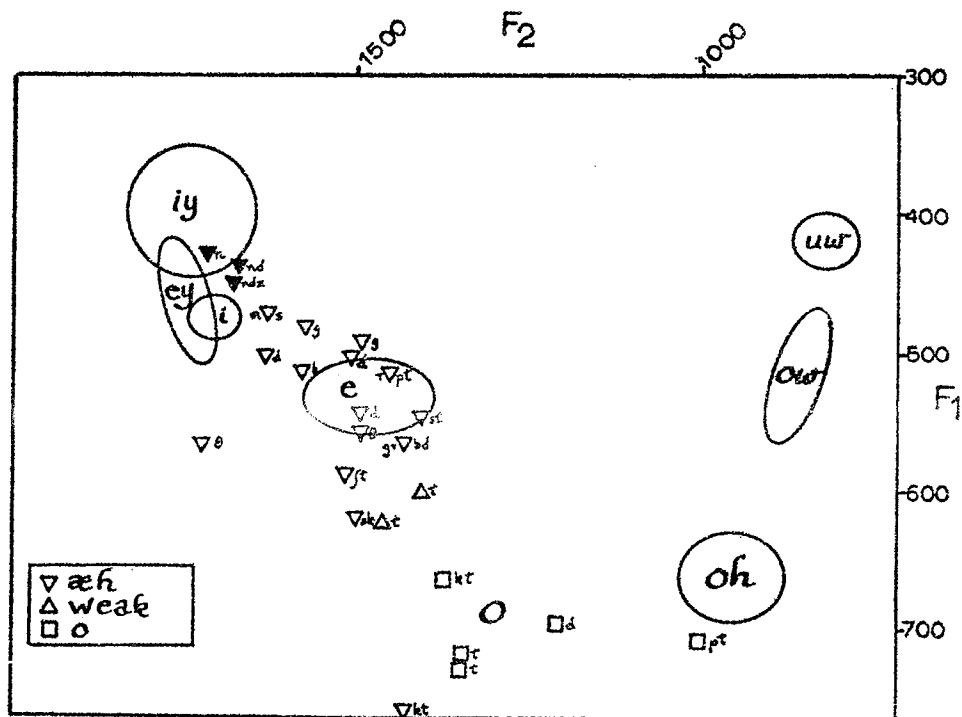


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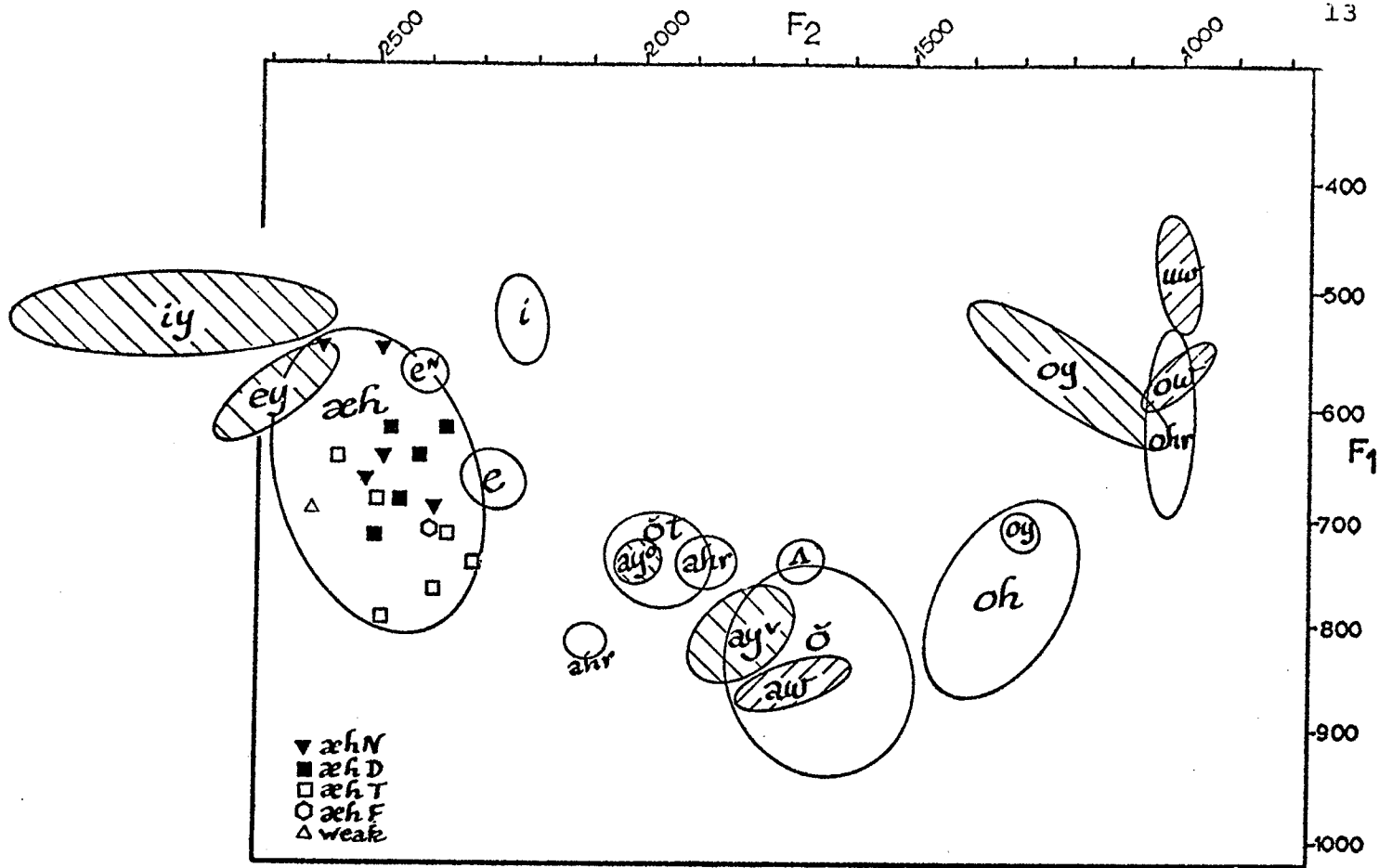


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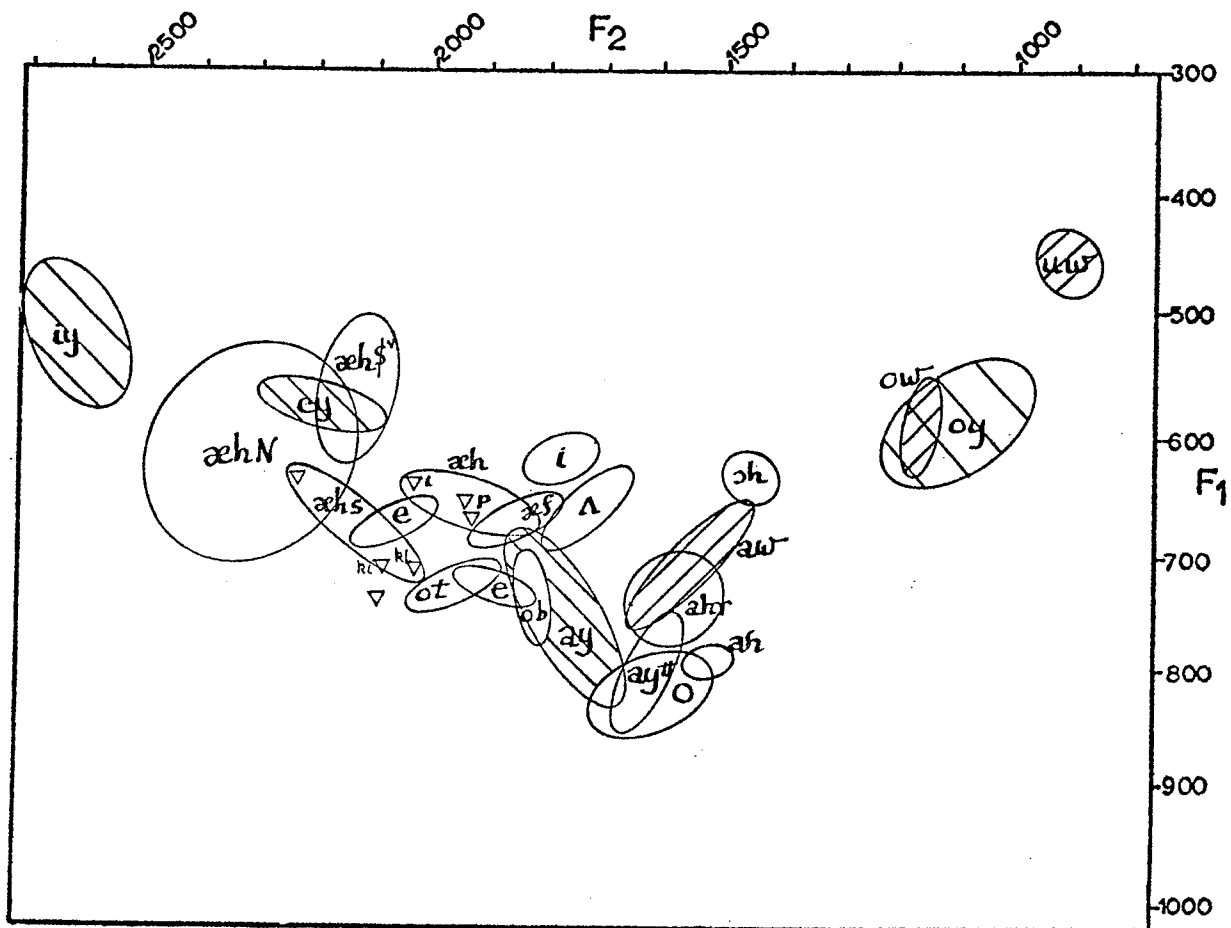


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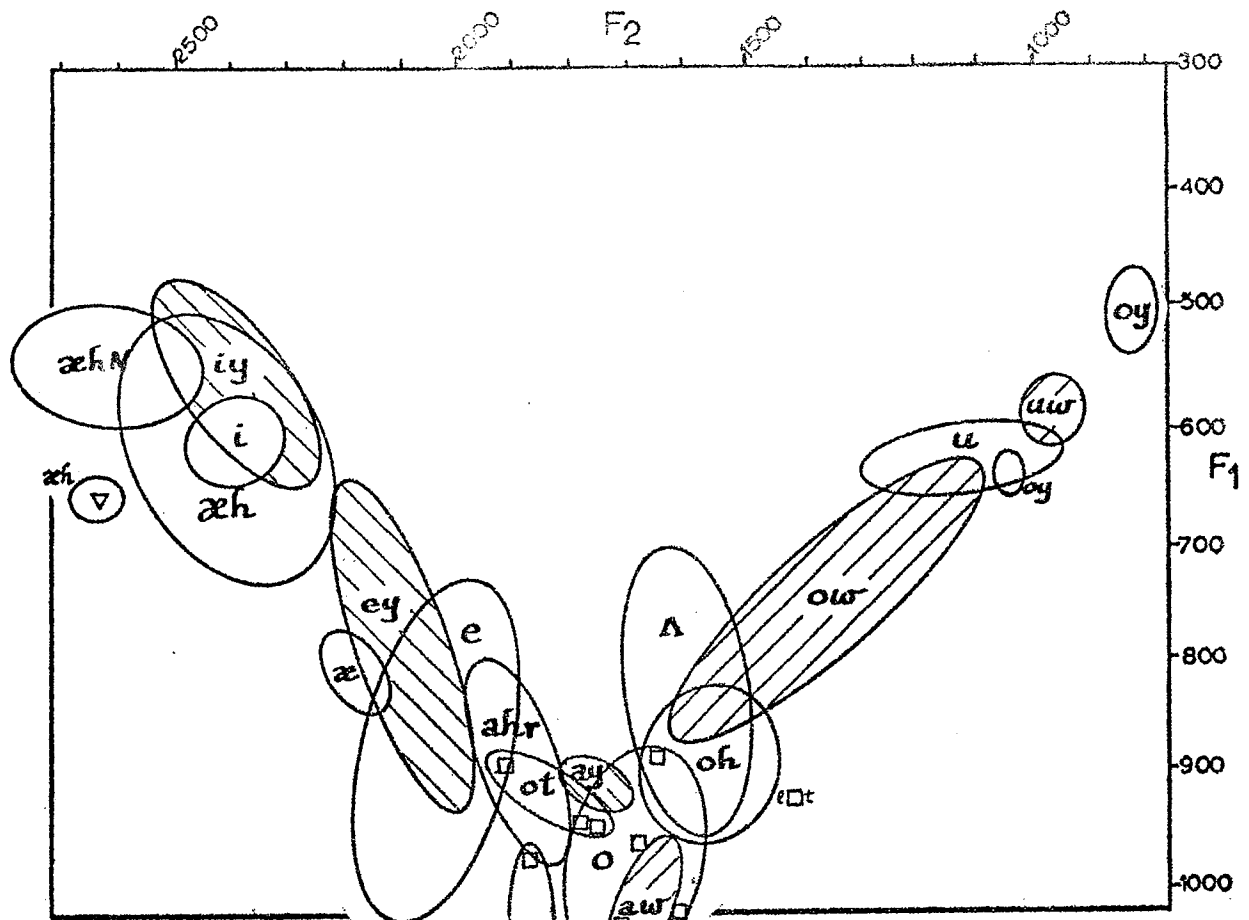


Figure 15.

Kathy, 15, Detroit.

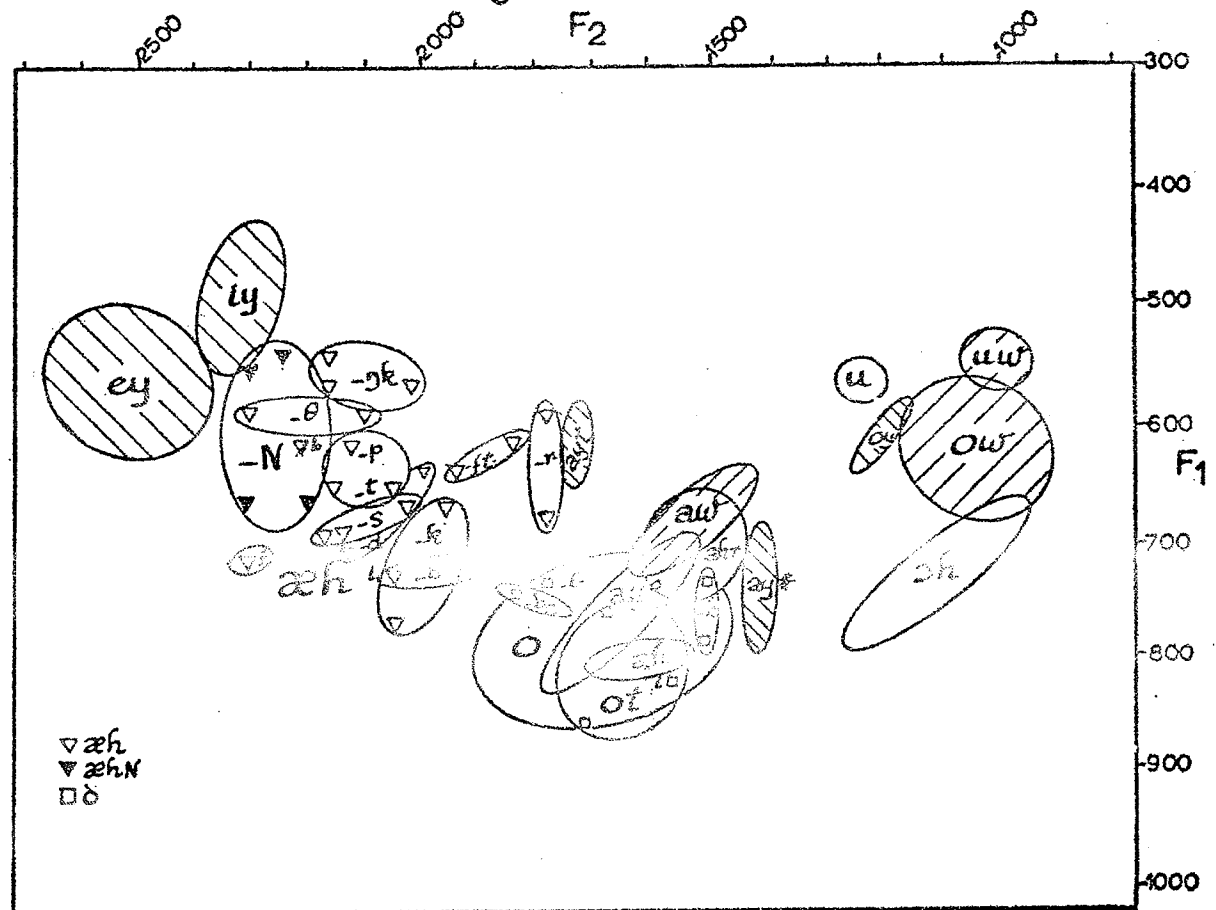
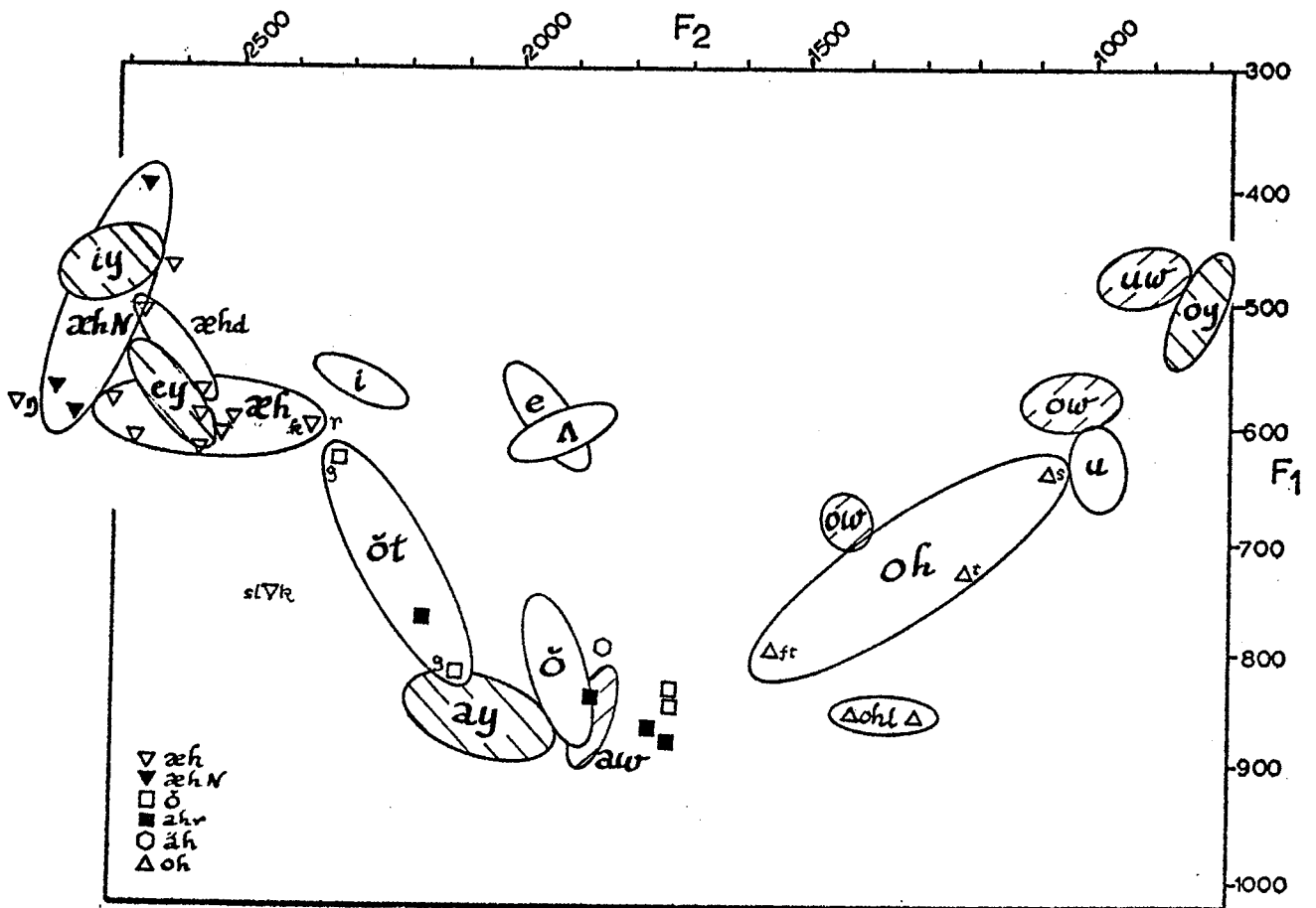
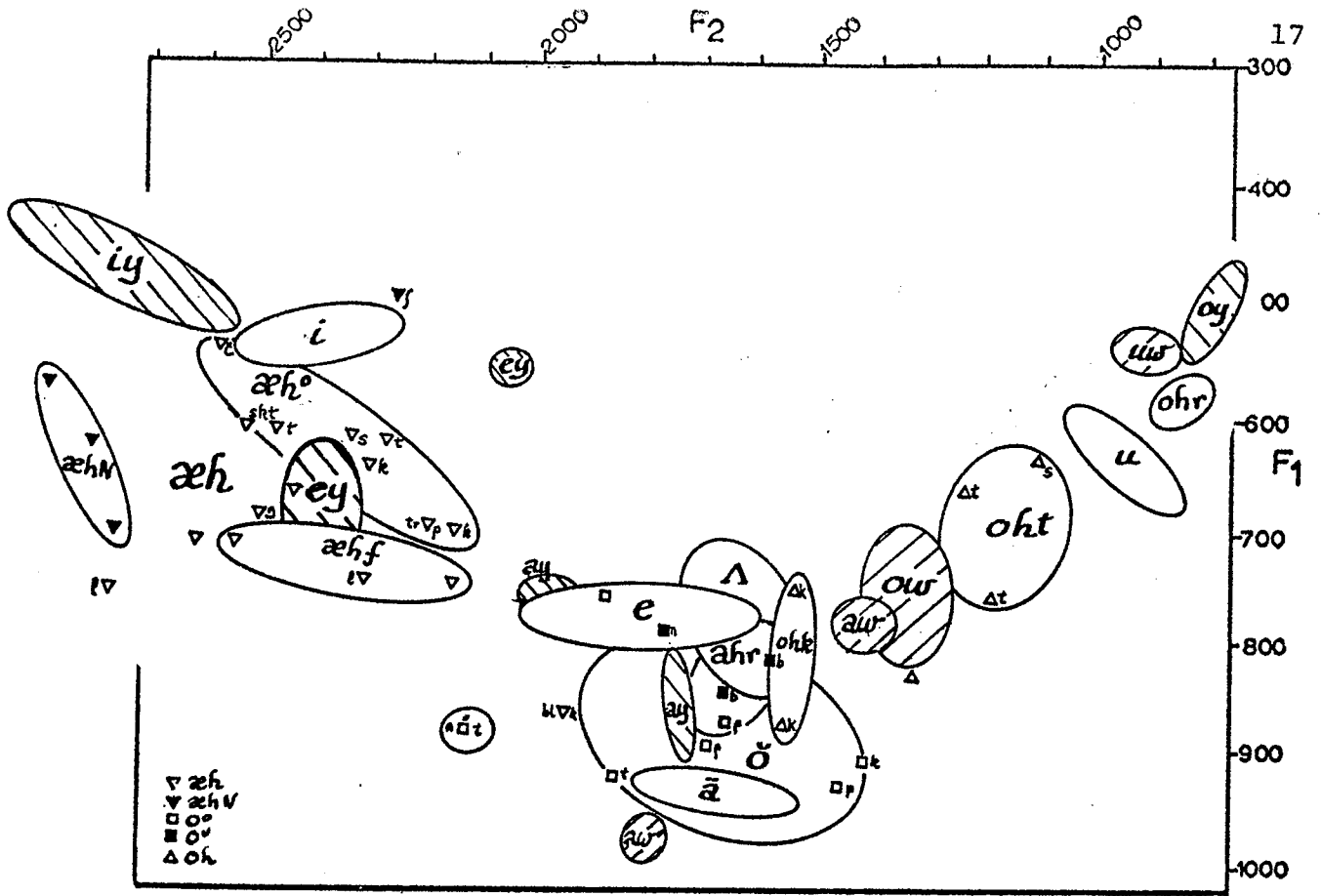


Figure 16. Mrs. Beck, 76, Buffalo.



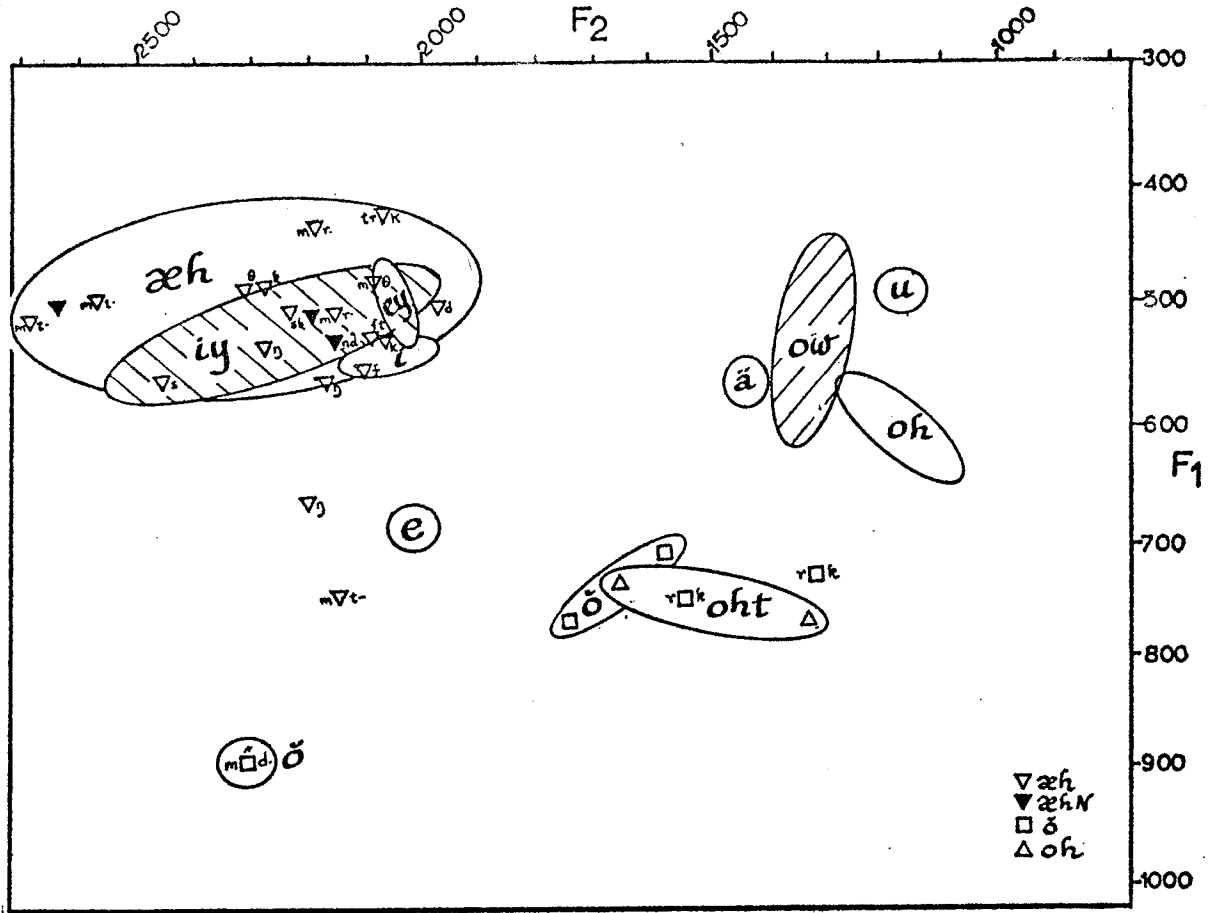


Figure 19. Mary Carol, 15, Buffalo

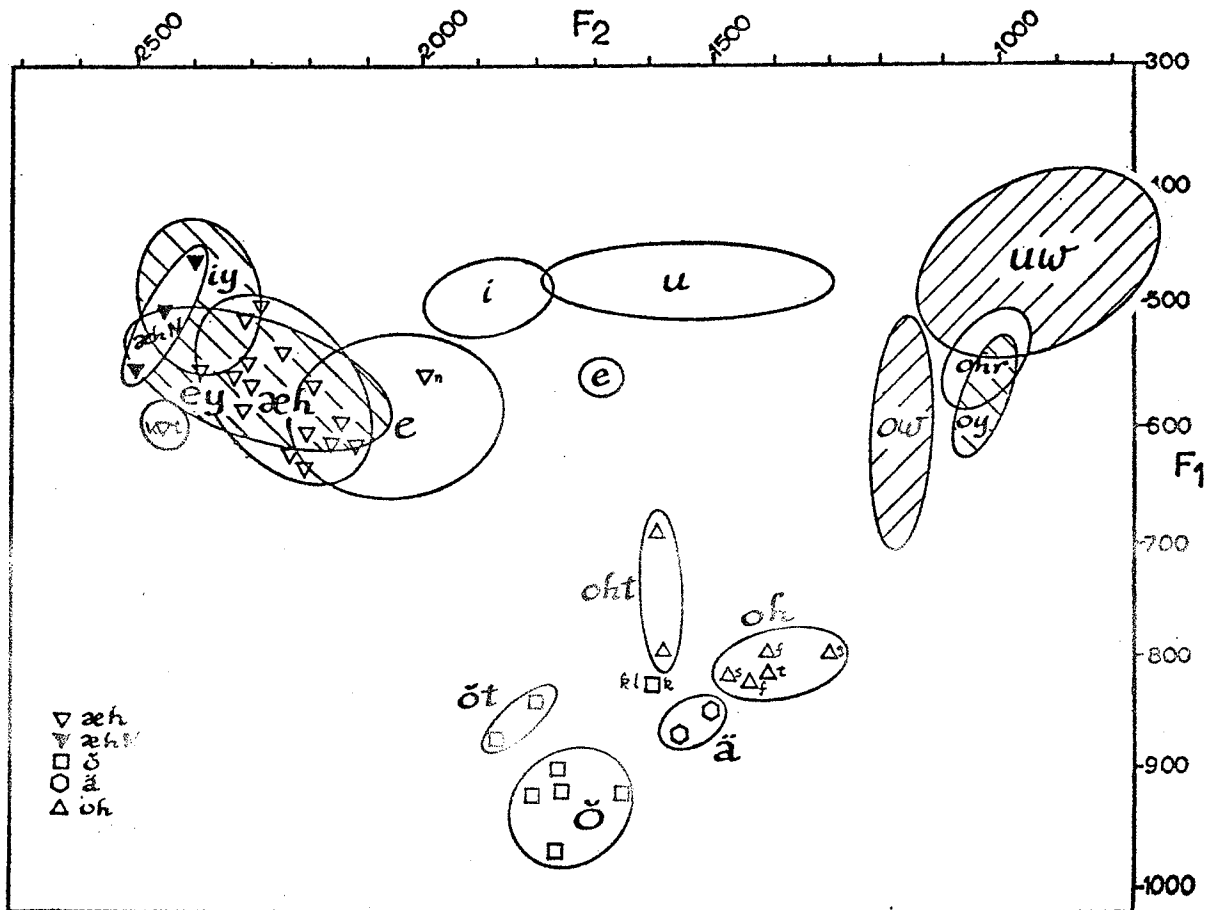


Figure 20. Joyce Norton, 16, Rochester.

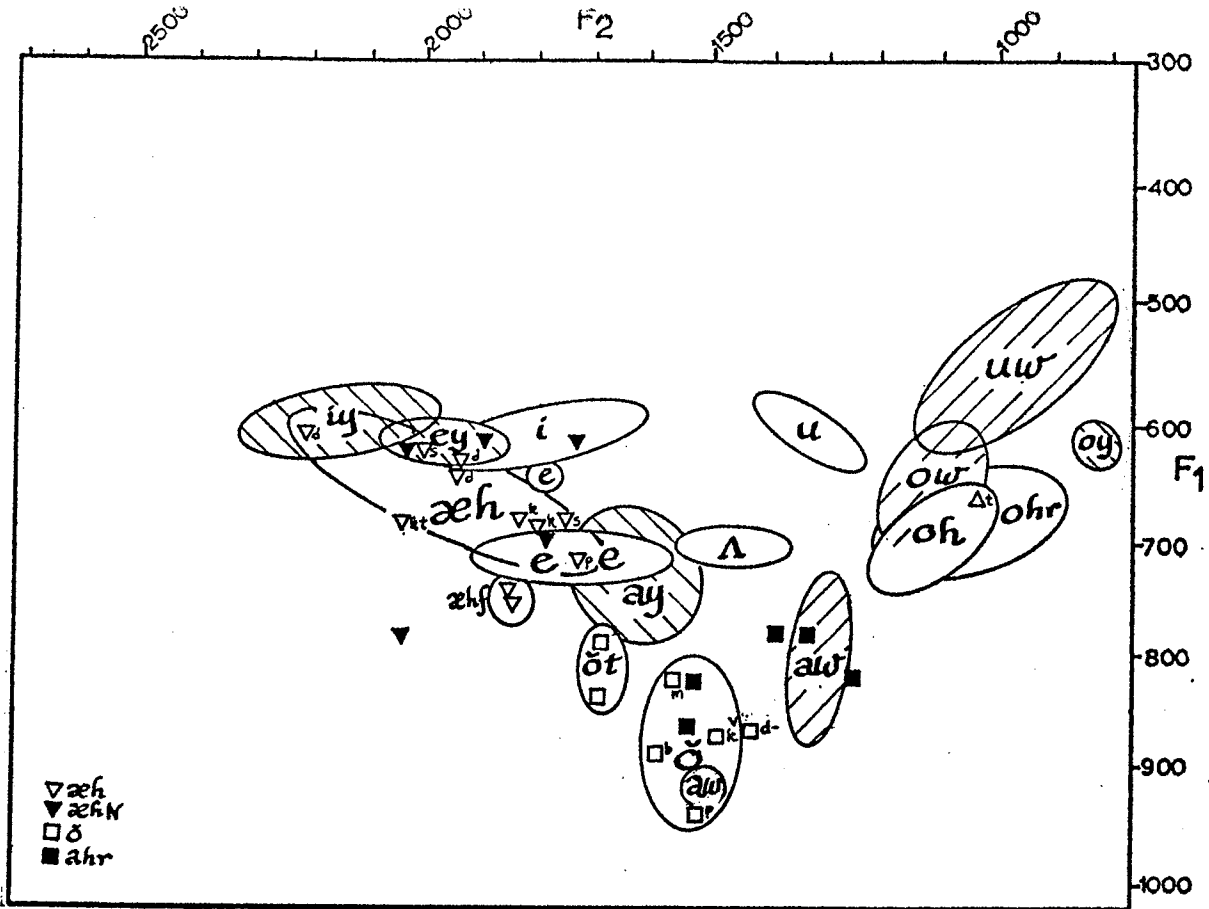


Figure 21. John Cole, 15, Chicago.

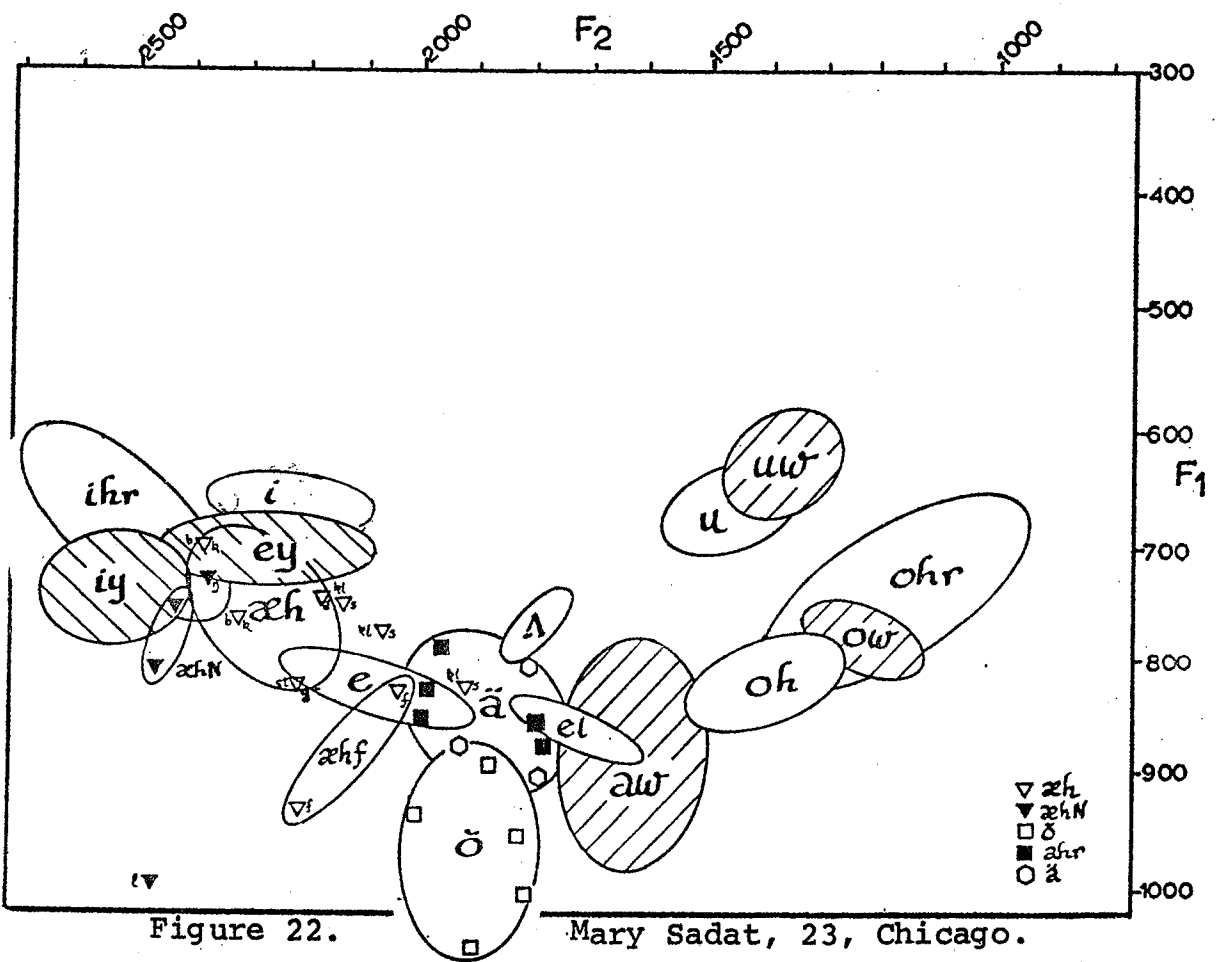
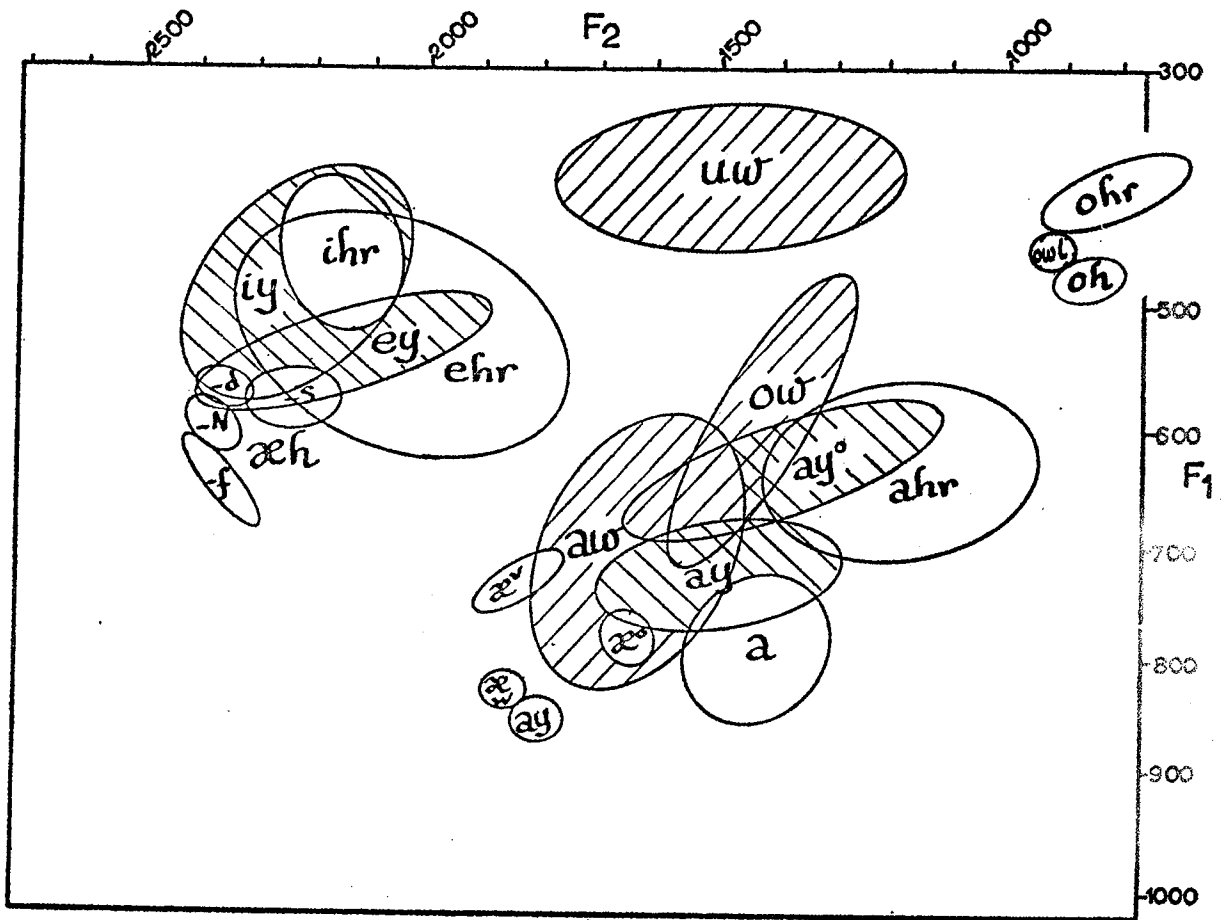
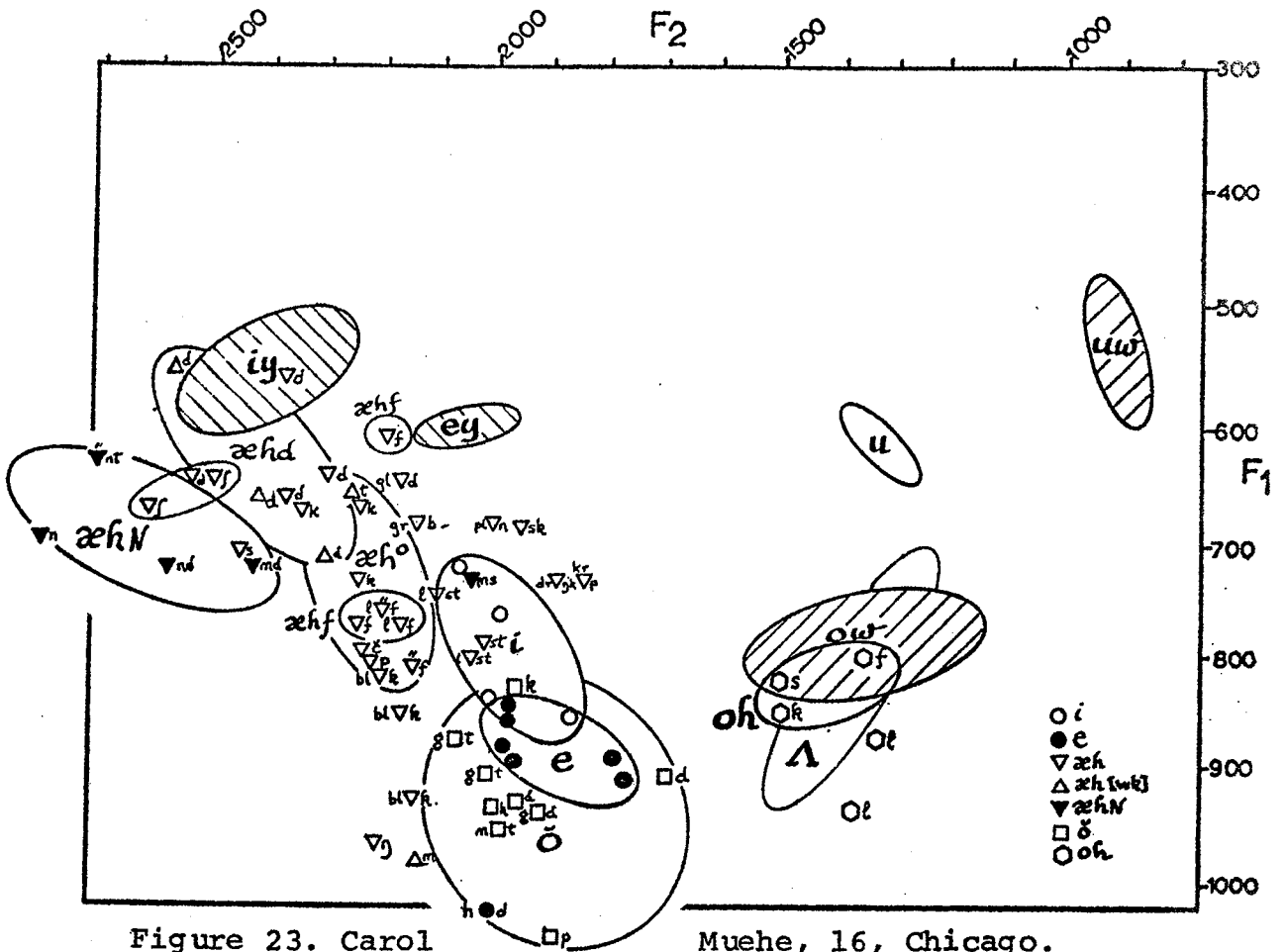


Figure 22. Mary Sadat, 23, Chicago.



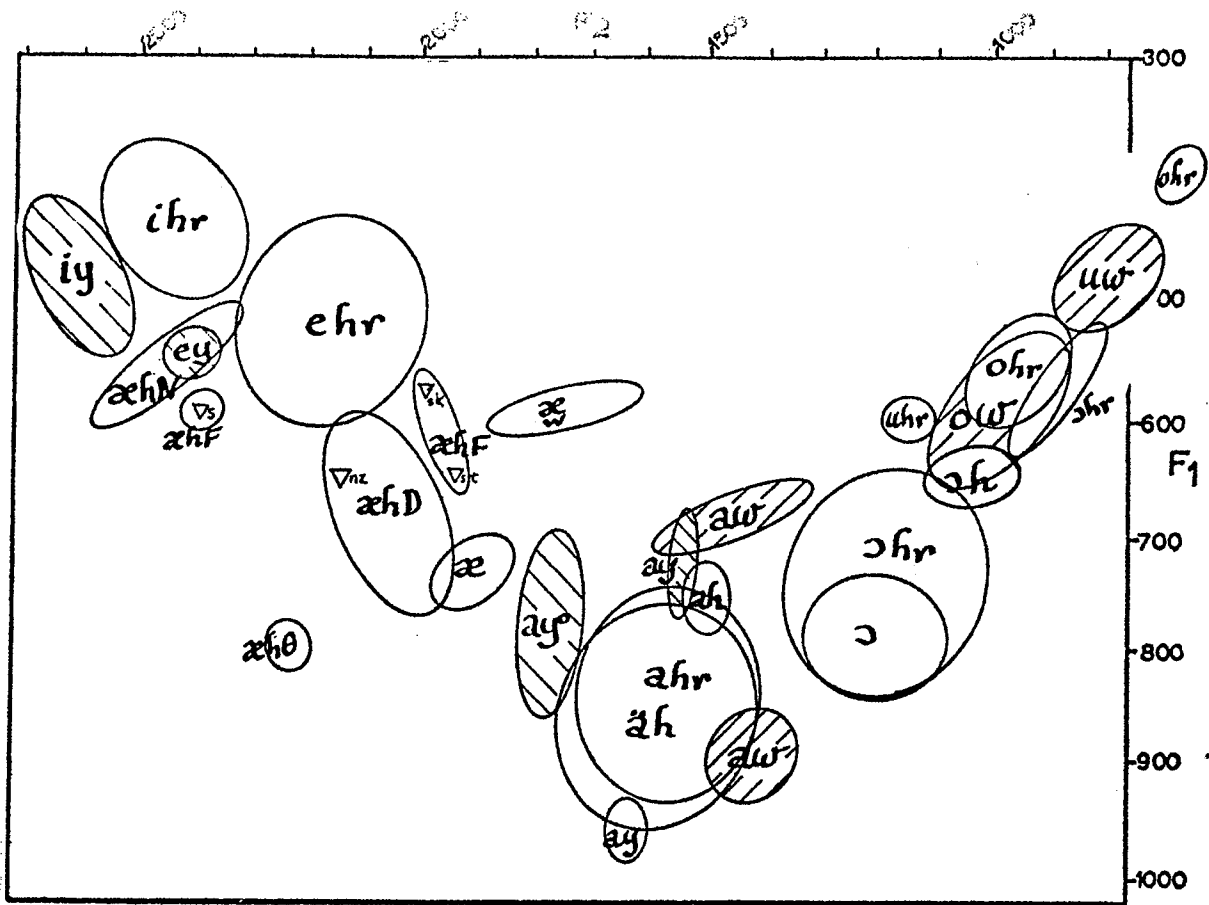


Figure 27. John of Cambridge, 70, Cambridge, Mass.

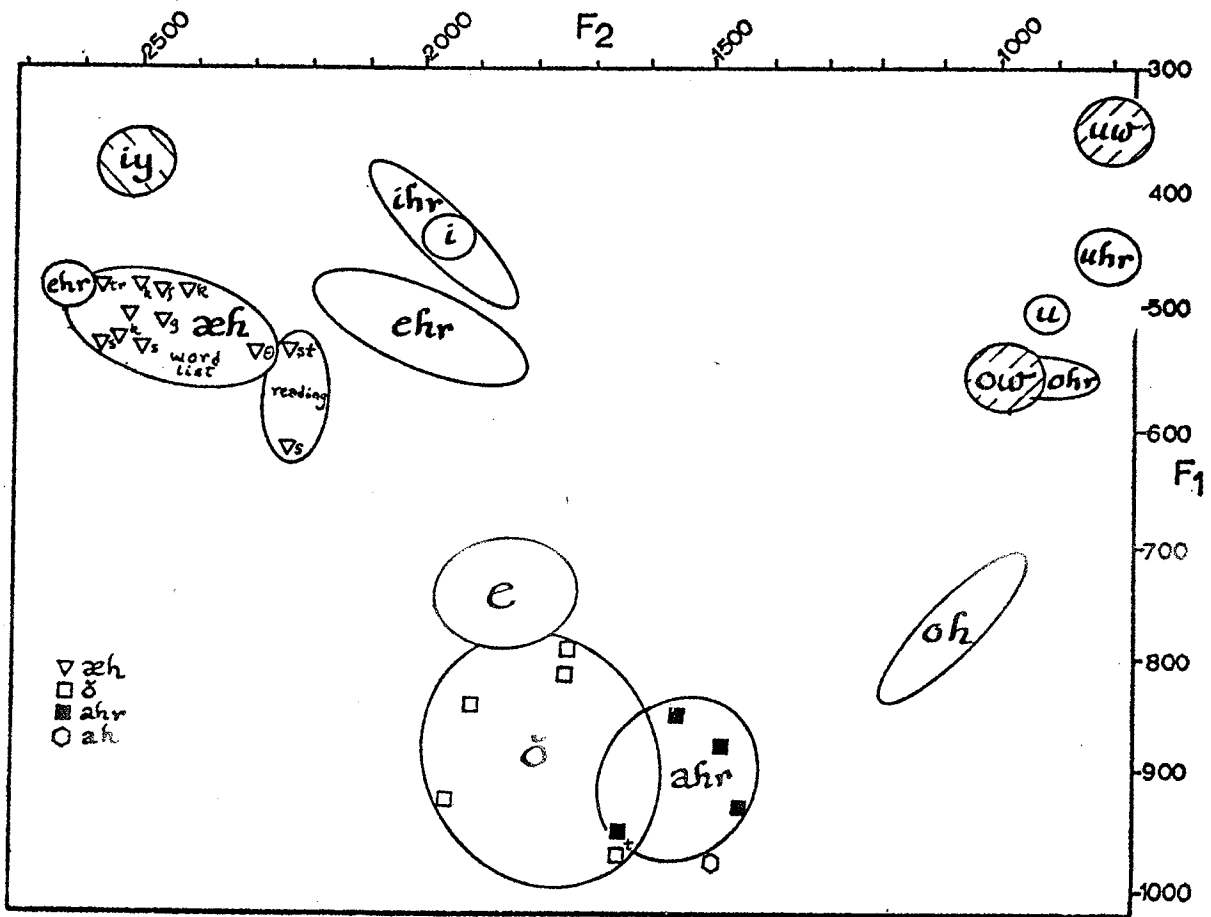


Figure 28. Tony from Chicago, 17; reading and word lists.

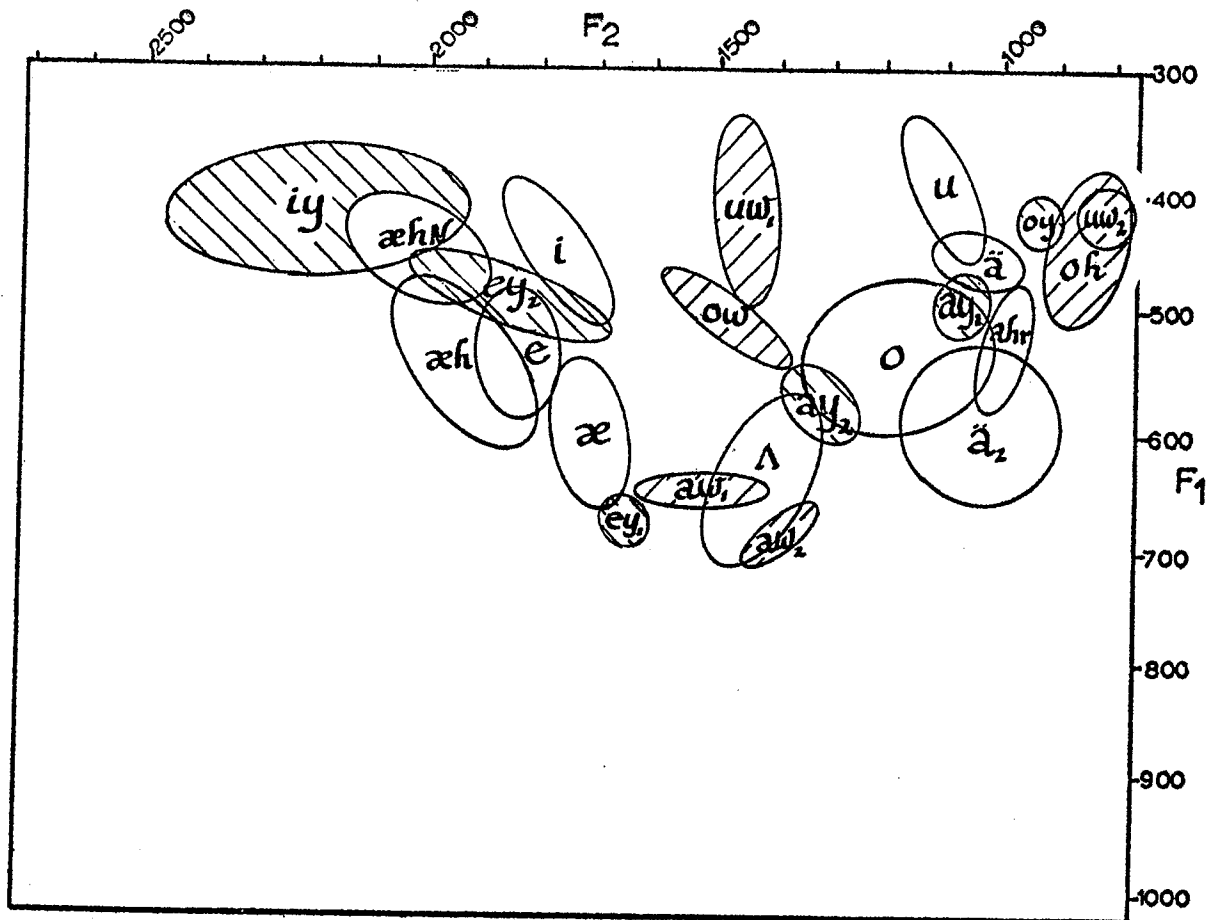


Figure 29. Tom Stokes, 83, Bethnel Green, London.

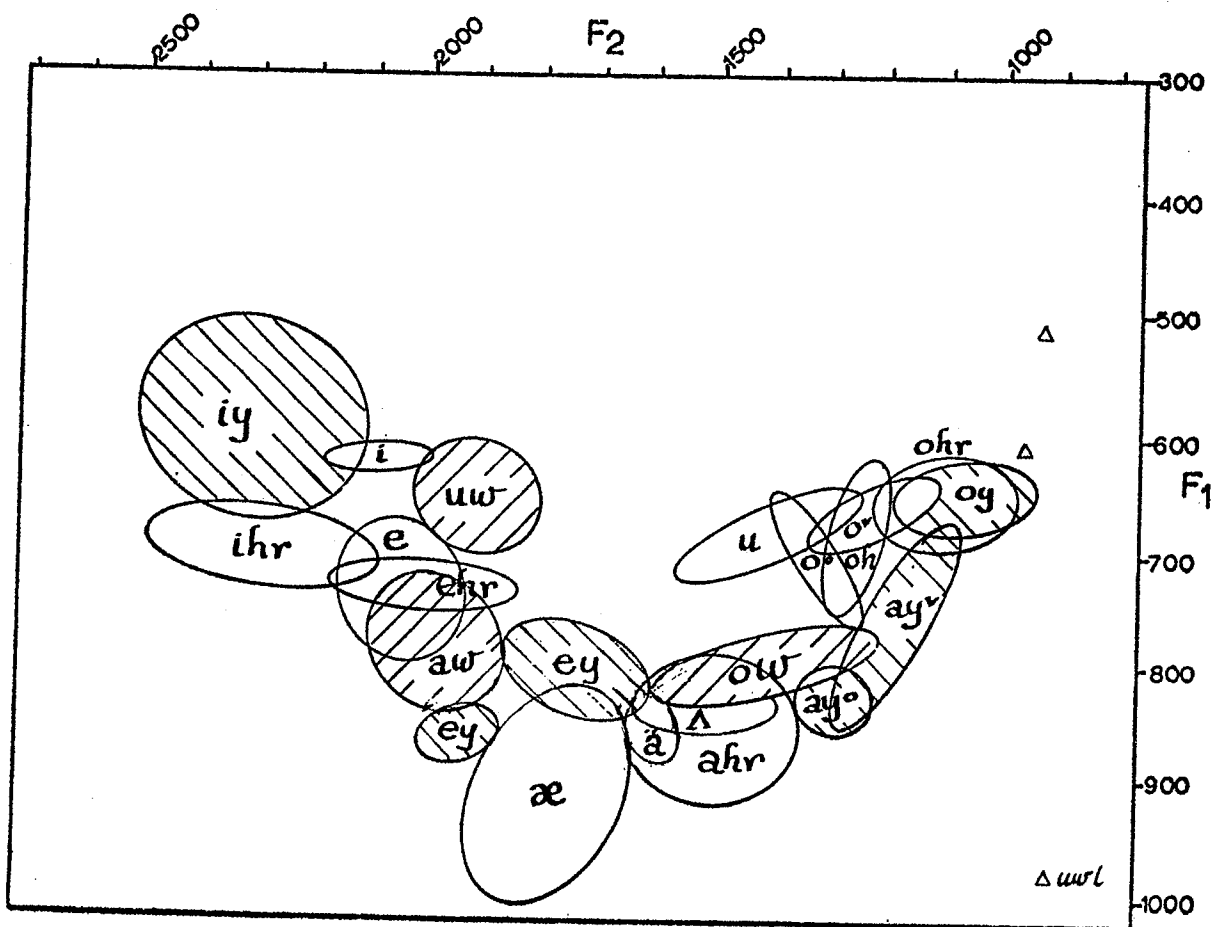


Figure 30. Marie Colville, 39, Millwall, London.

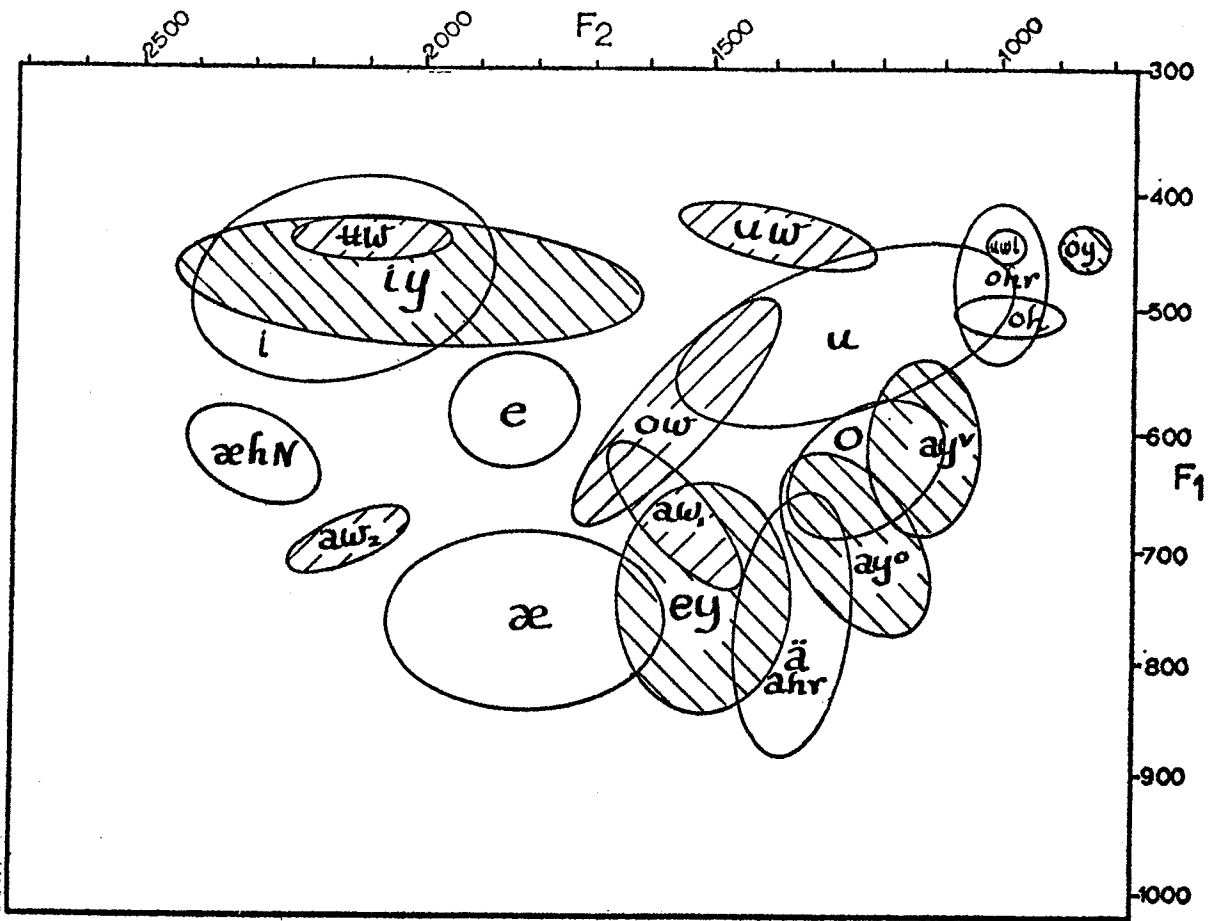


Figure 31. Bob Frost, 31, Southall, London.

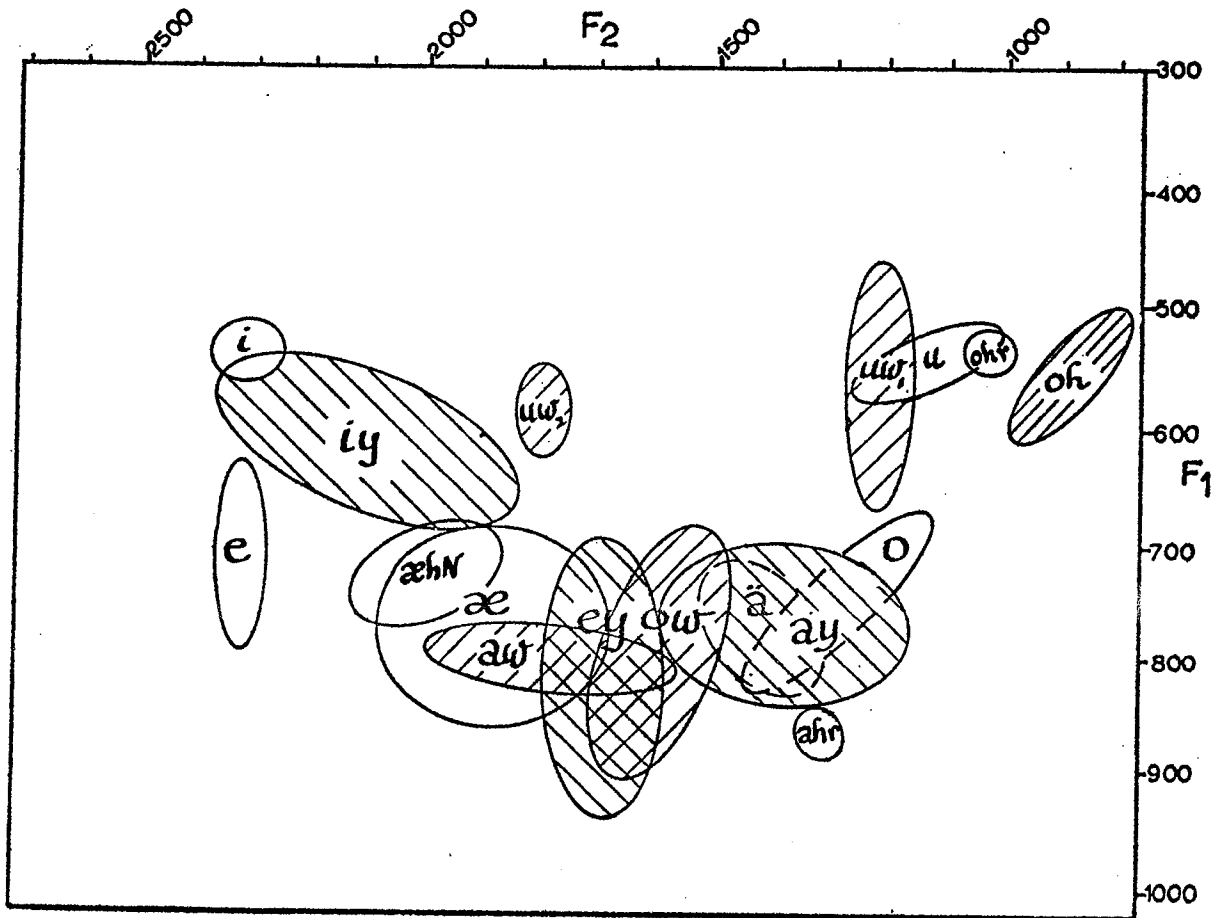


Figure 32. Tom Gale, 23, Chelsea, London.

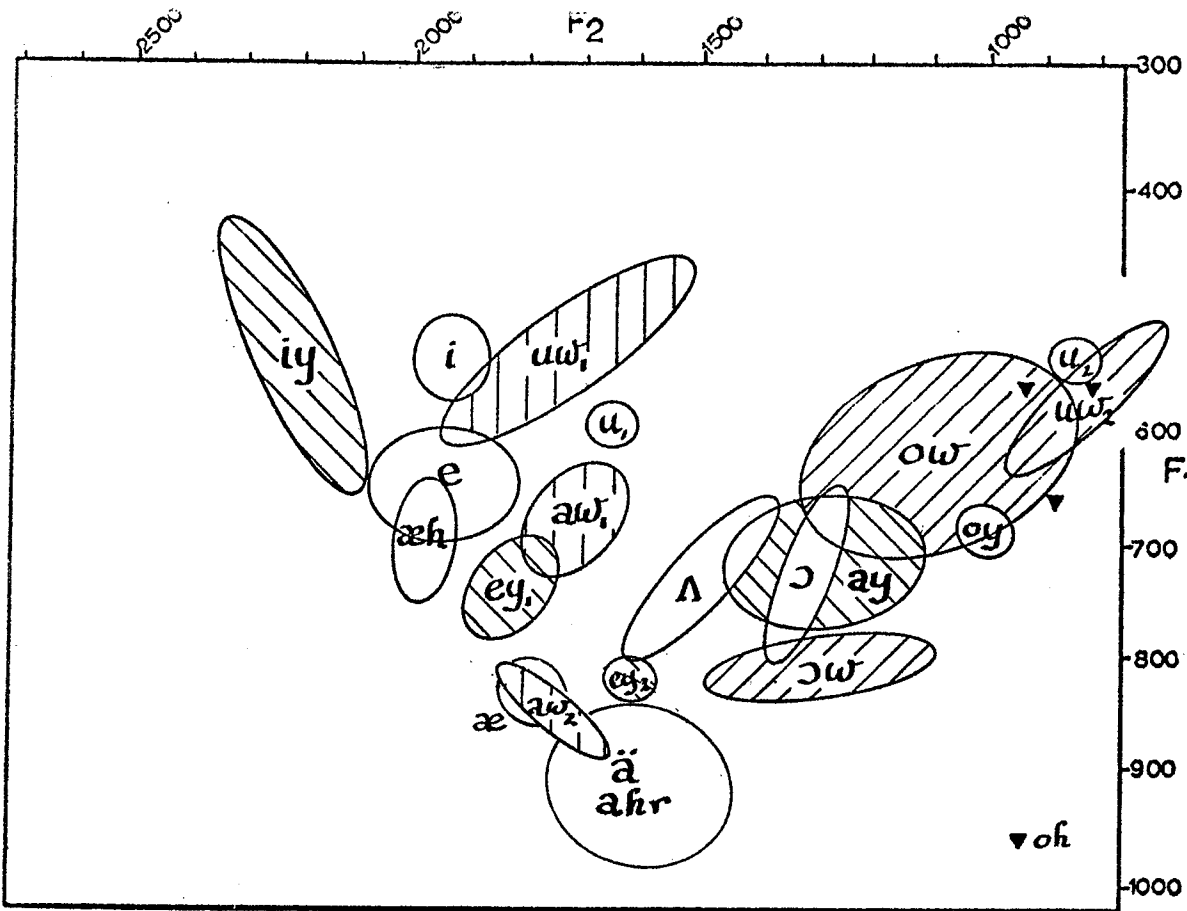


Figure 33. James Wicks, 74, Norwich.

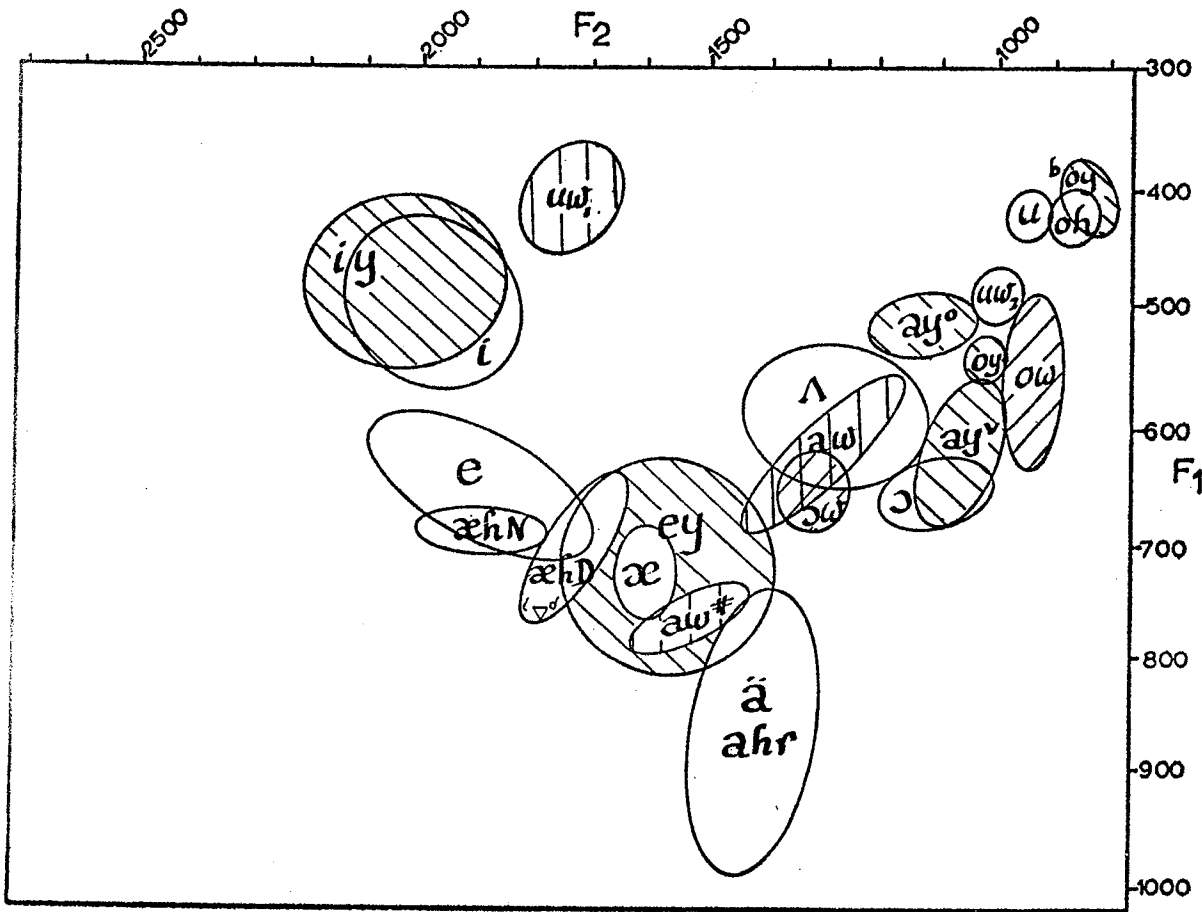


Figure 34. Les Branson, 42, Norwich.

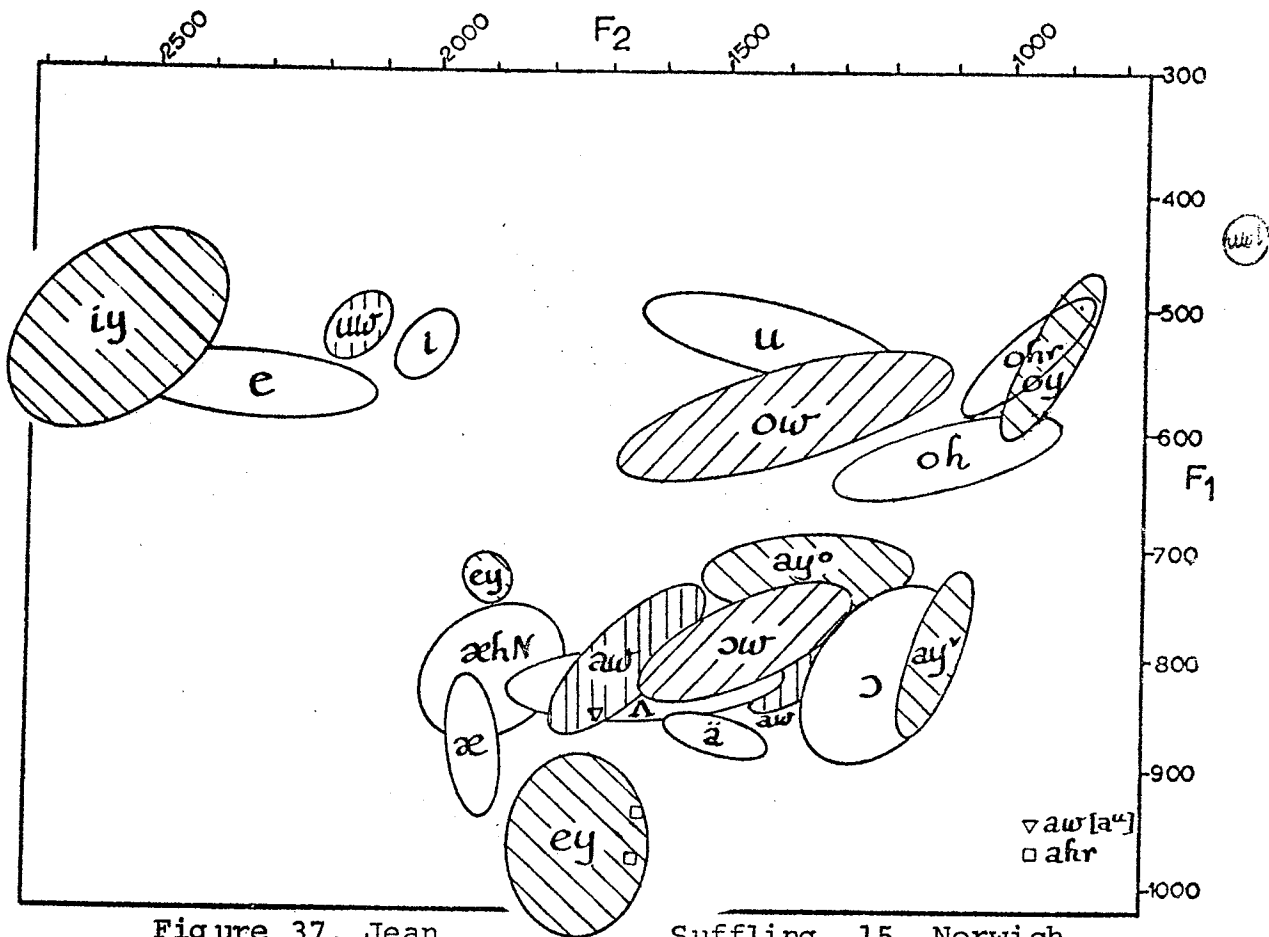


Figure 37. Jean

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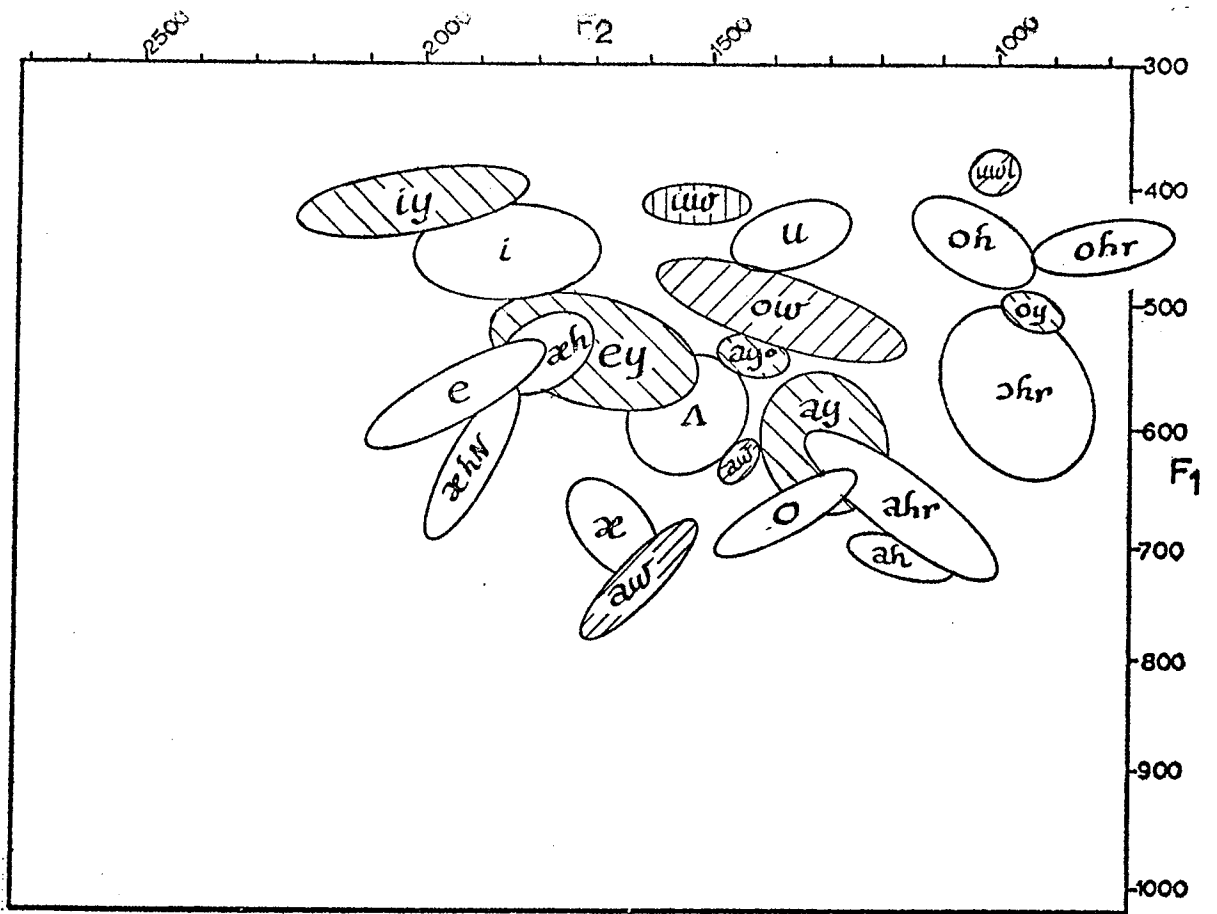


Figure 38. Jethroe Midgett, 72, Nags Head, N.C.

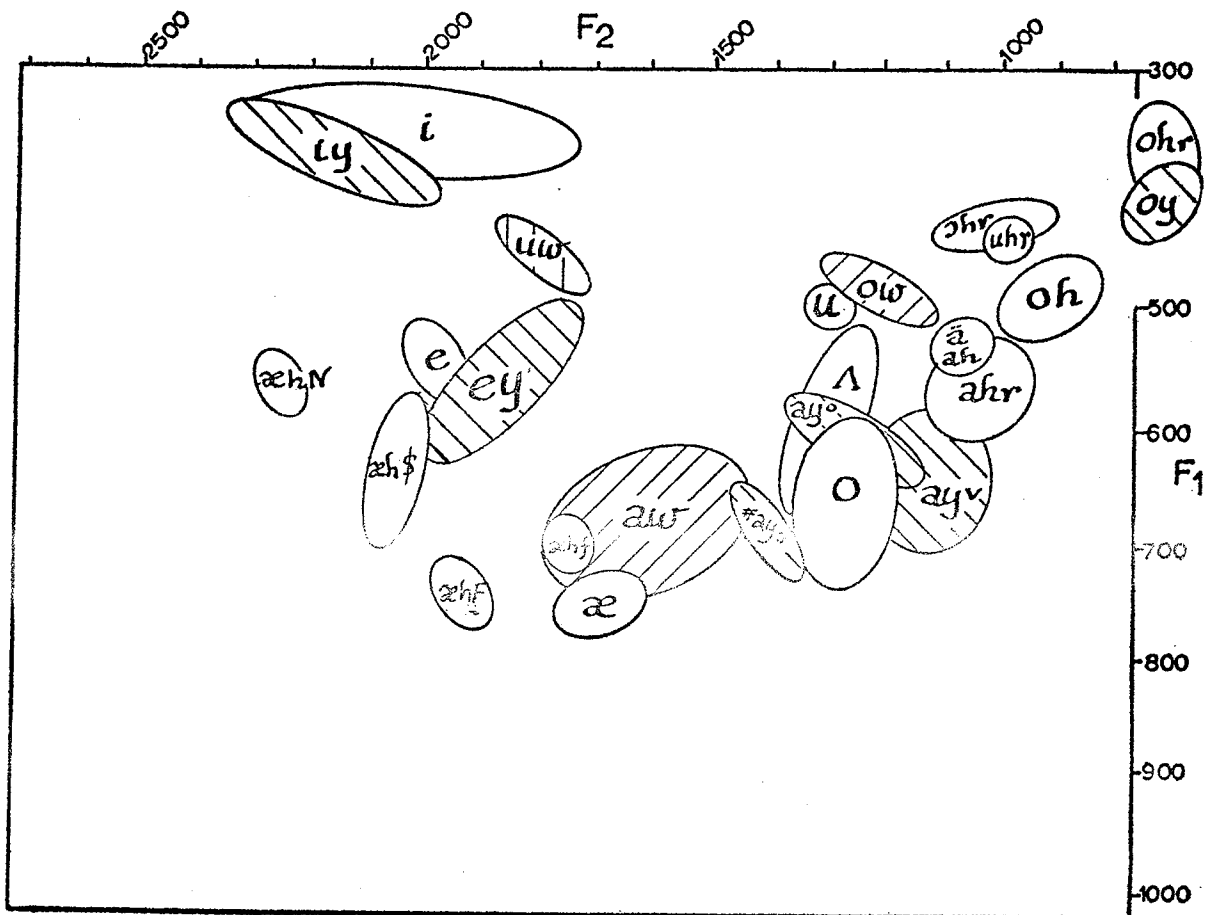


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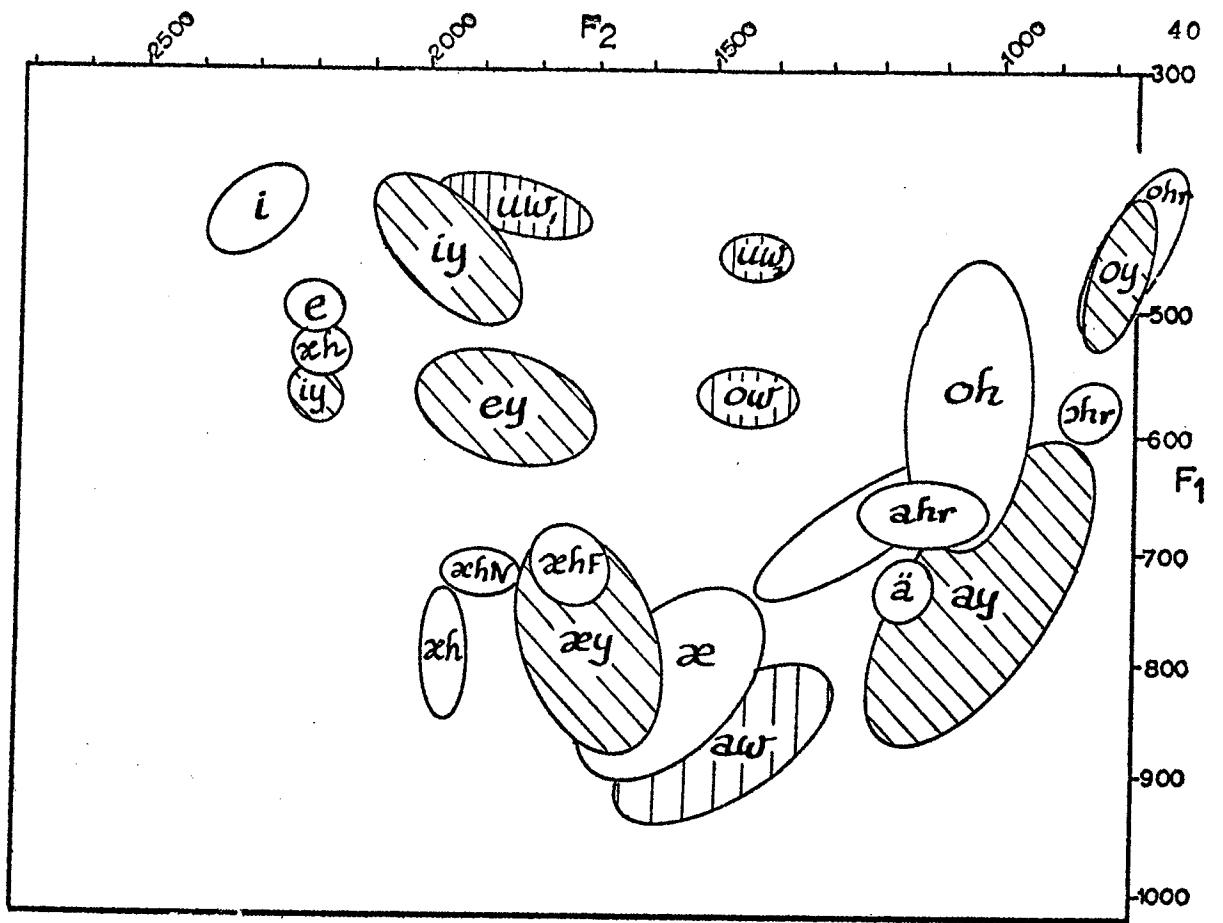


Figure 40. Monnie O'Neill, 31, Wanchese, N.C.

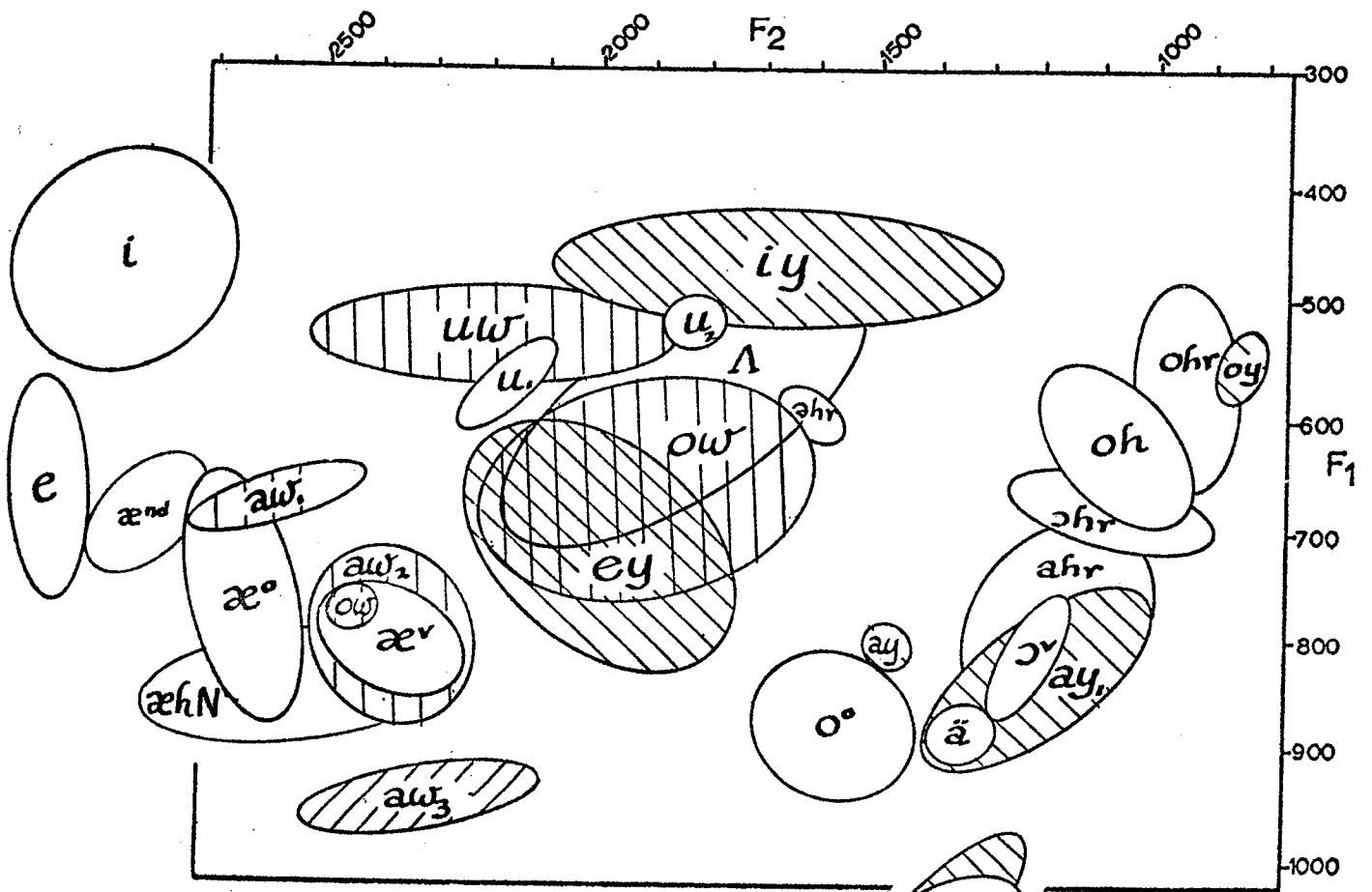


Figure 41. Nora Herbert, 61,

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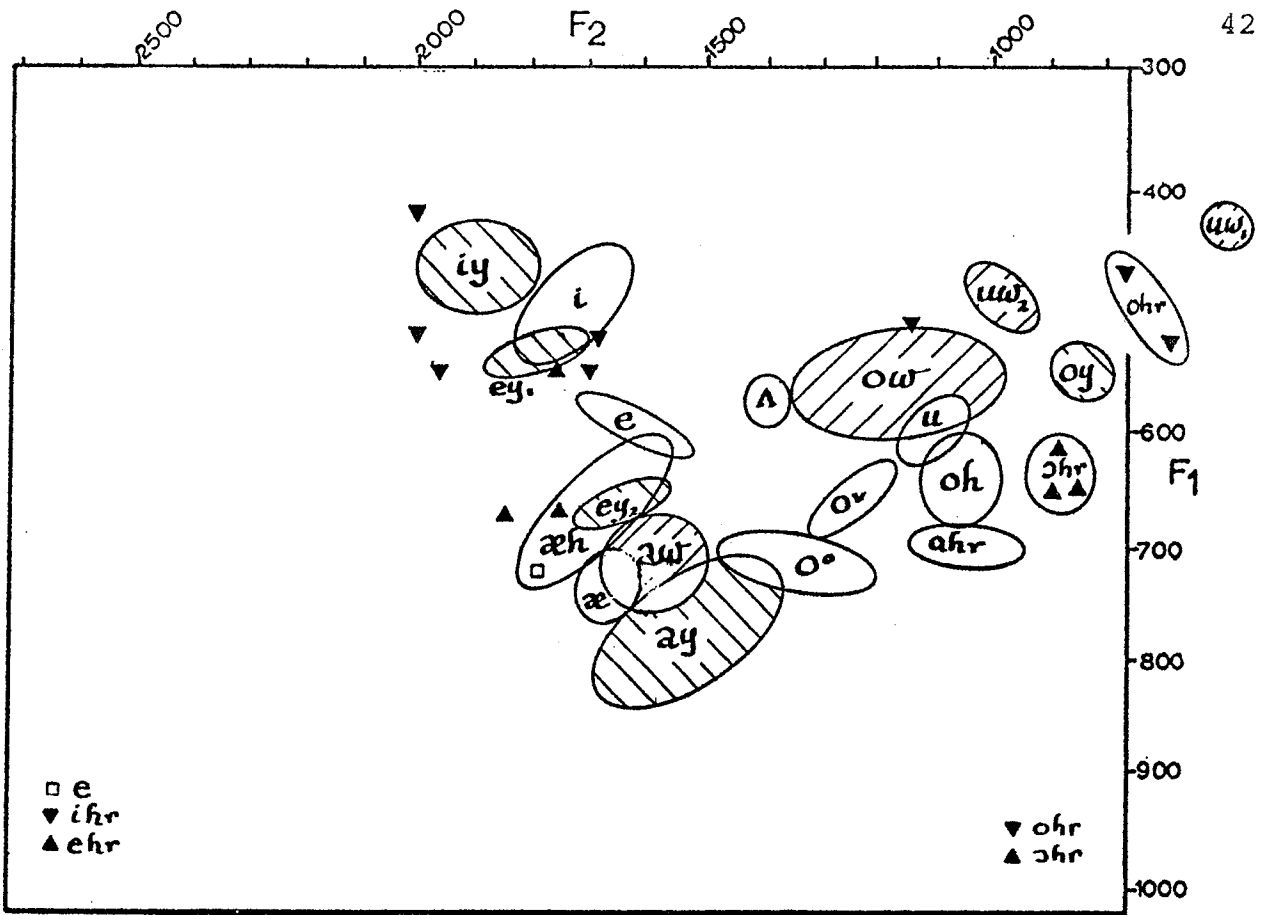


Figure 42. Landers Roberts, 89, Arapahoe, N. C.

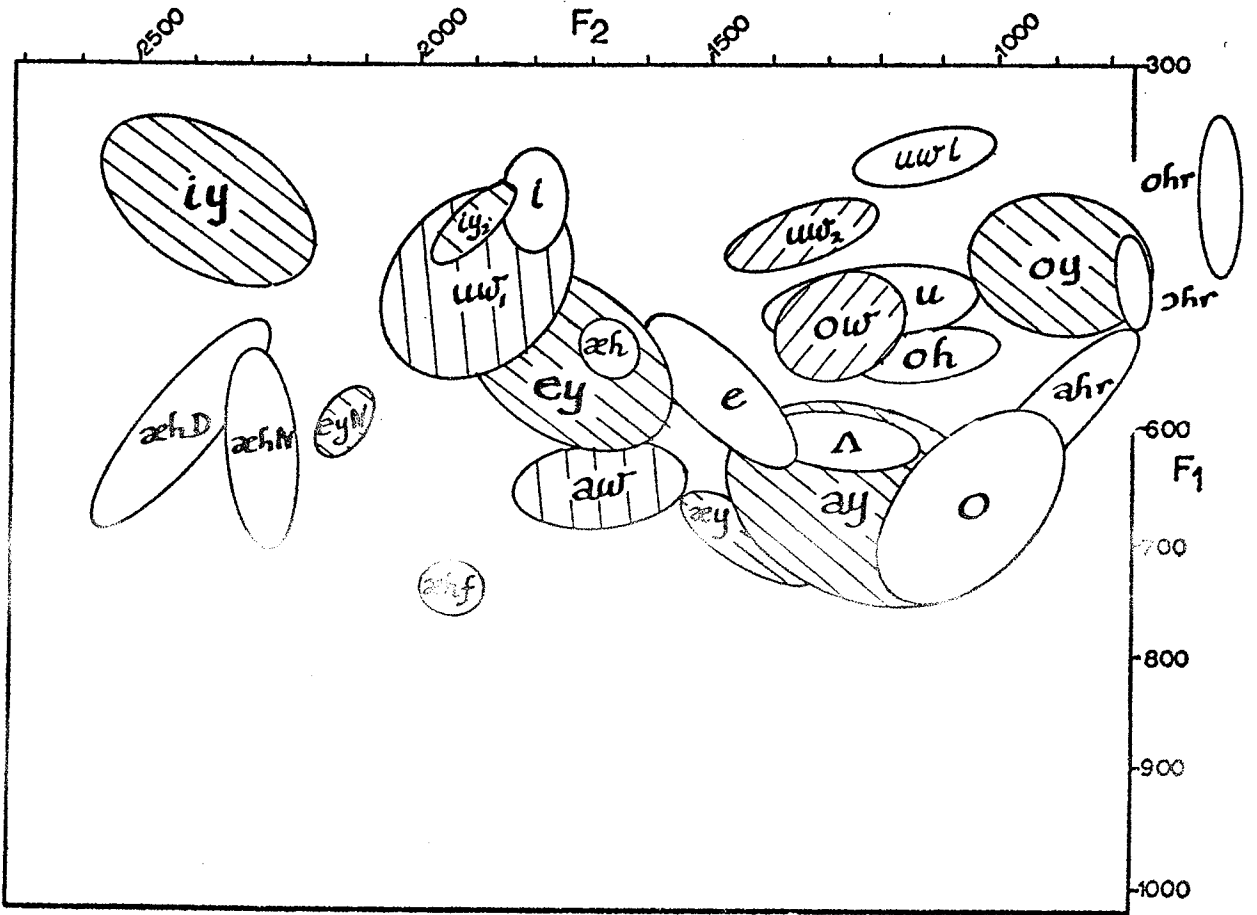


Figure 43. Duval Hardison, 58, Arapahoe, N. C.

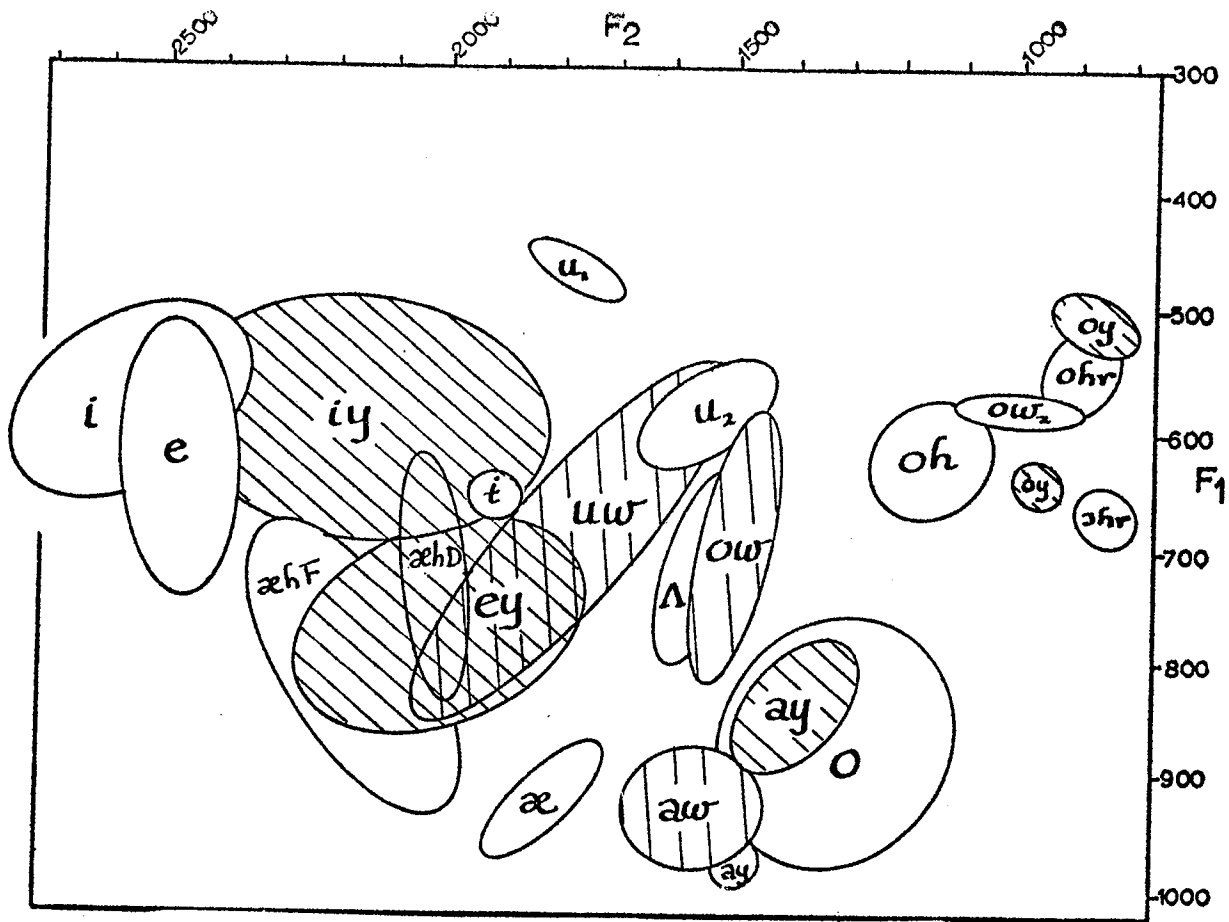


Figure 44. Nellie Willis, 67, Arapahoe, N. C.

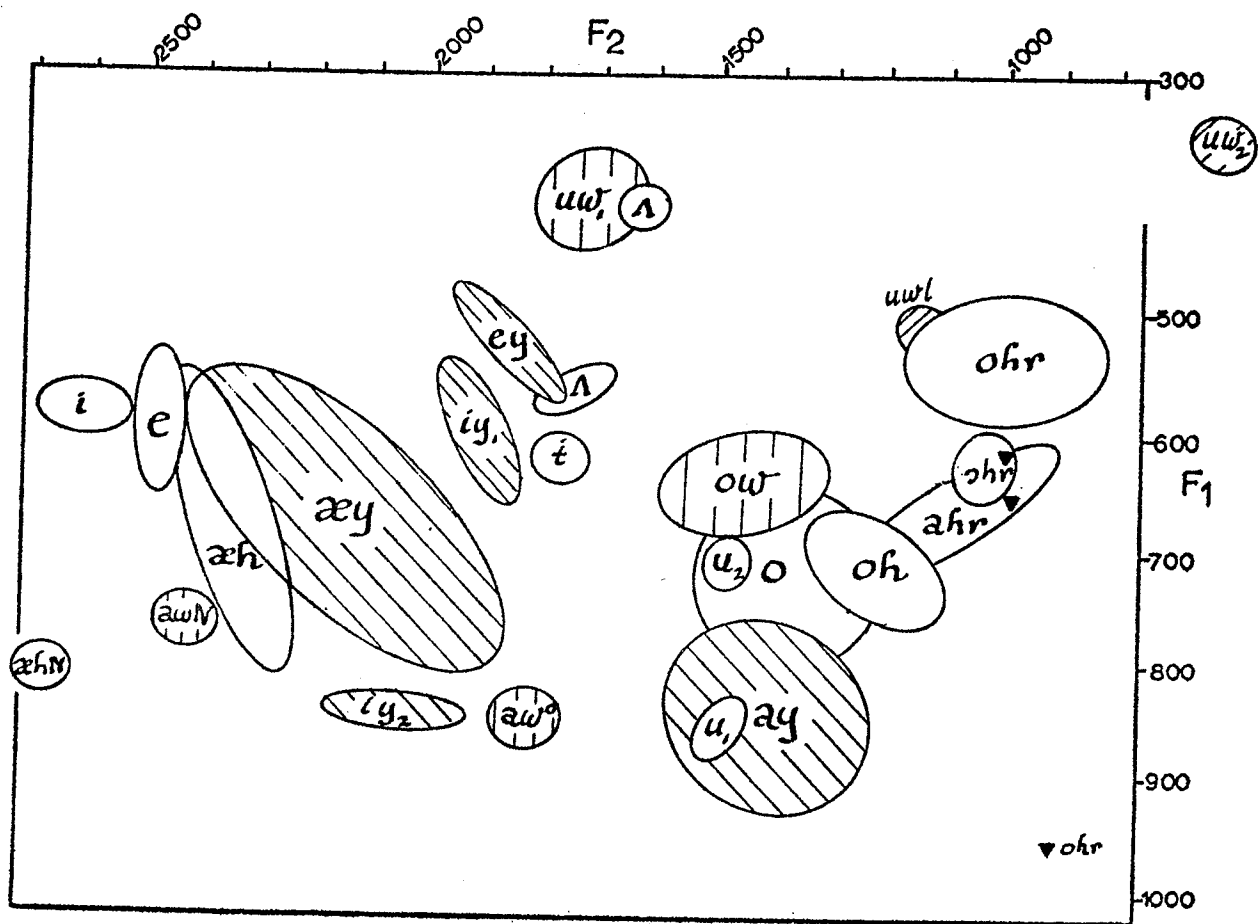


Figure 45. Carolyn Price, 39, Arapahoe, N. C.

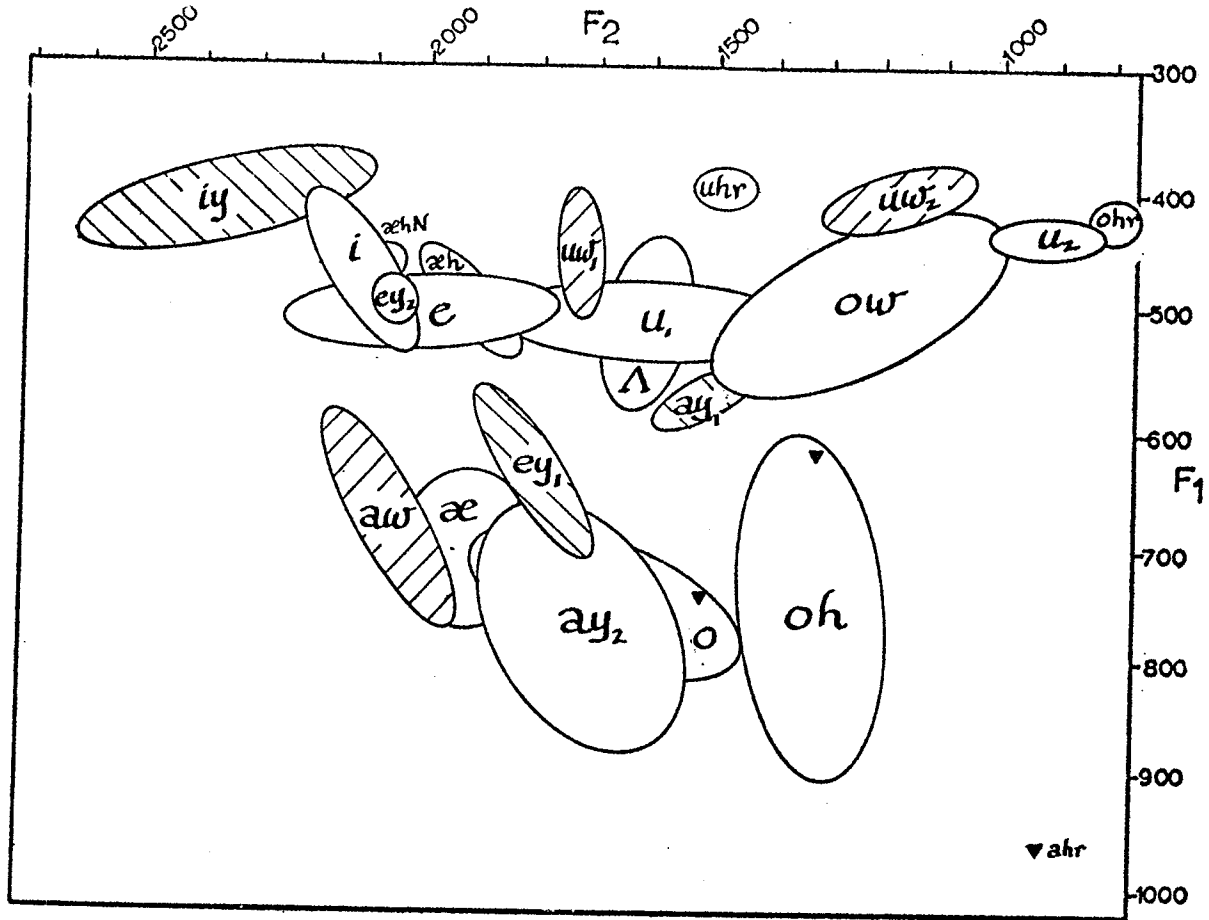


Figure 48. Barbara Gratton, 28, East Atlanta.

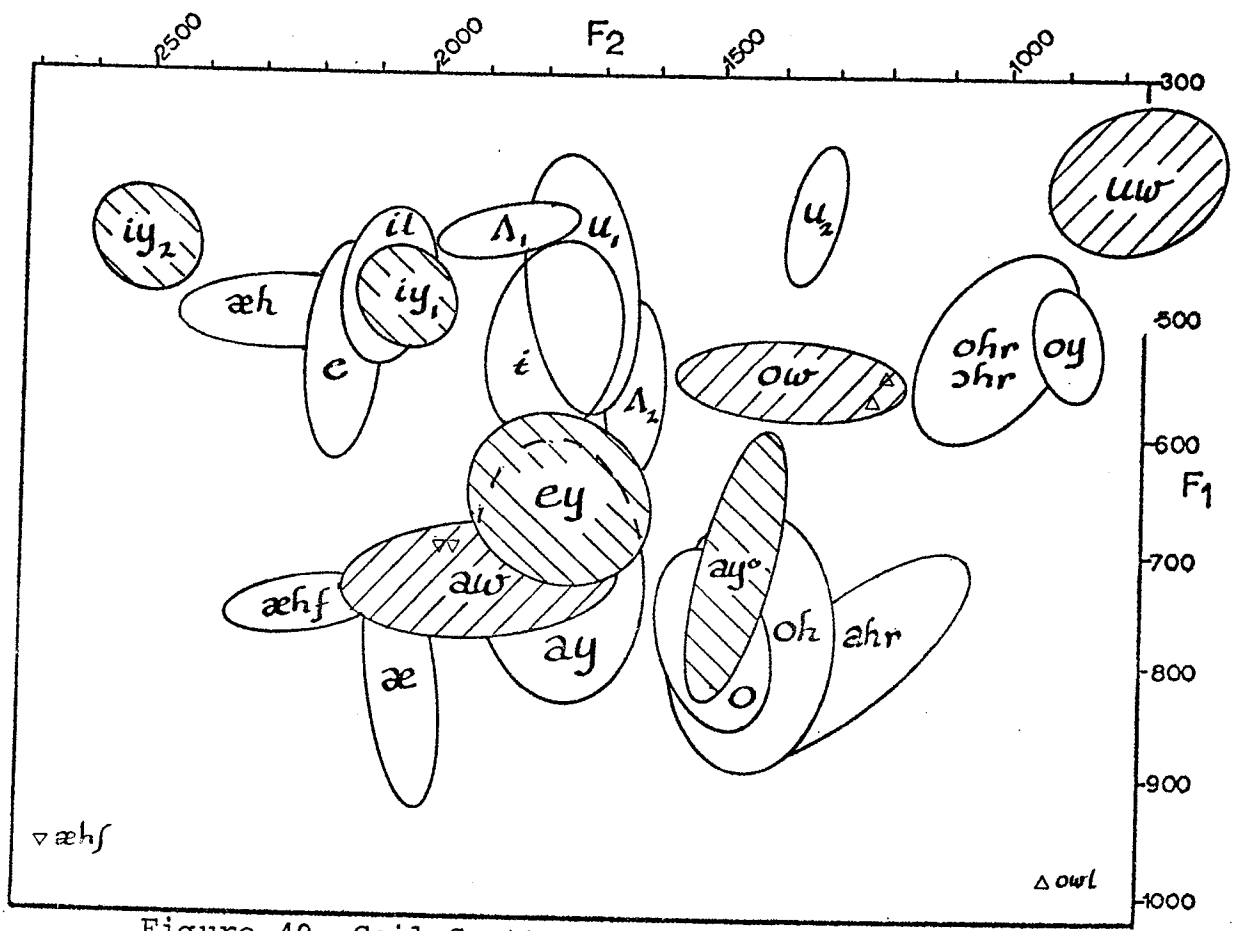


Figure 49. Gail Gratton, 31, East Atlanta.

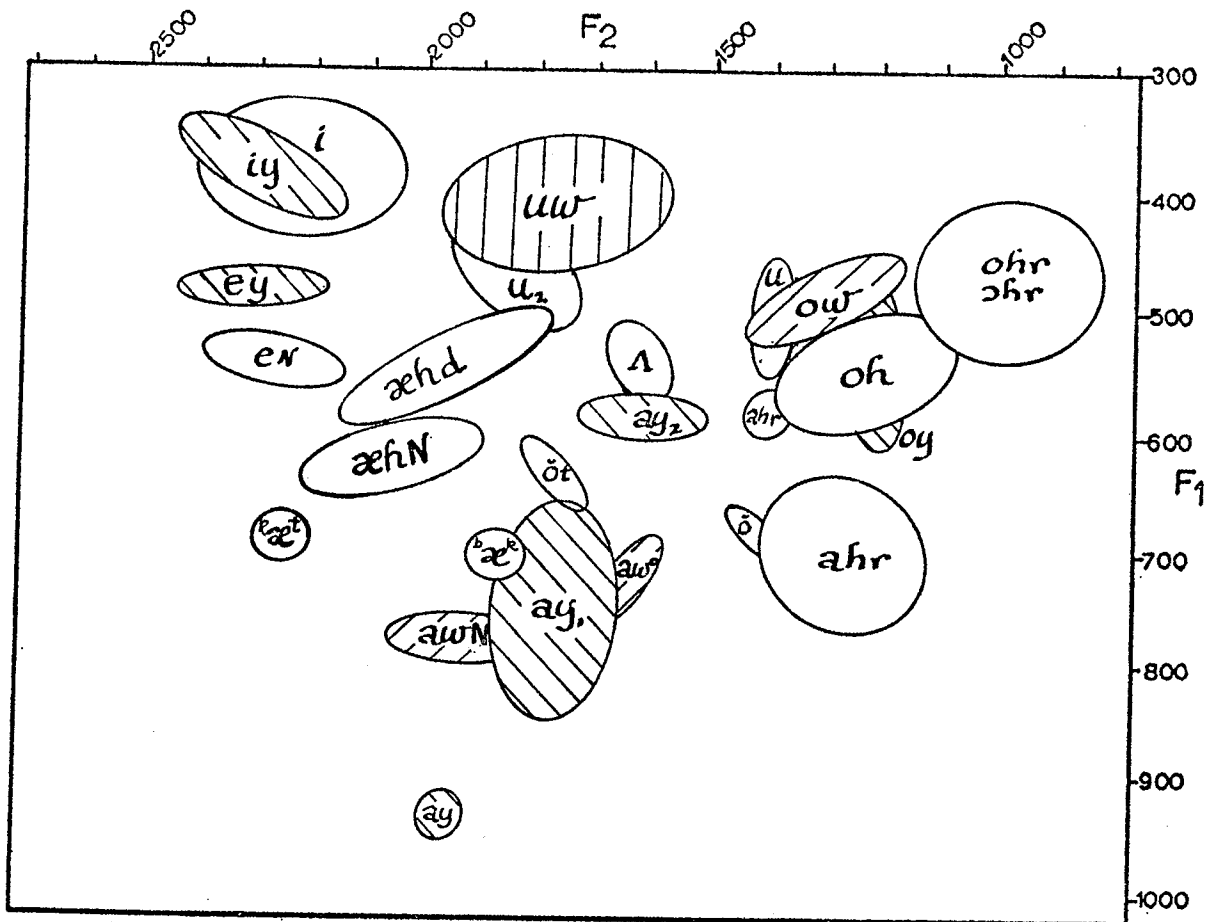


Figure 51. Bud Stokes, 80, Sonora, Texas.

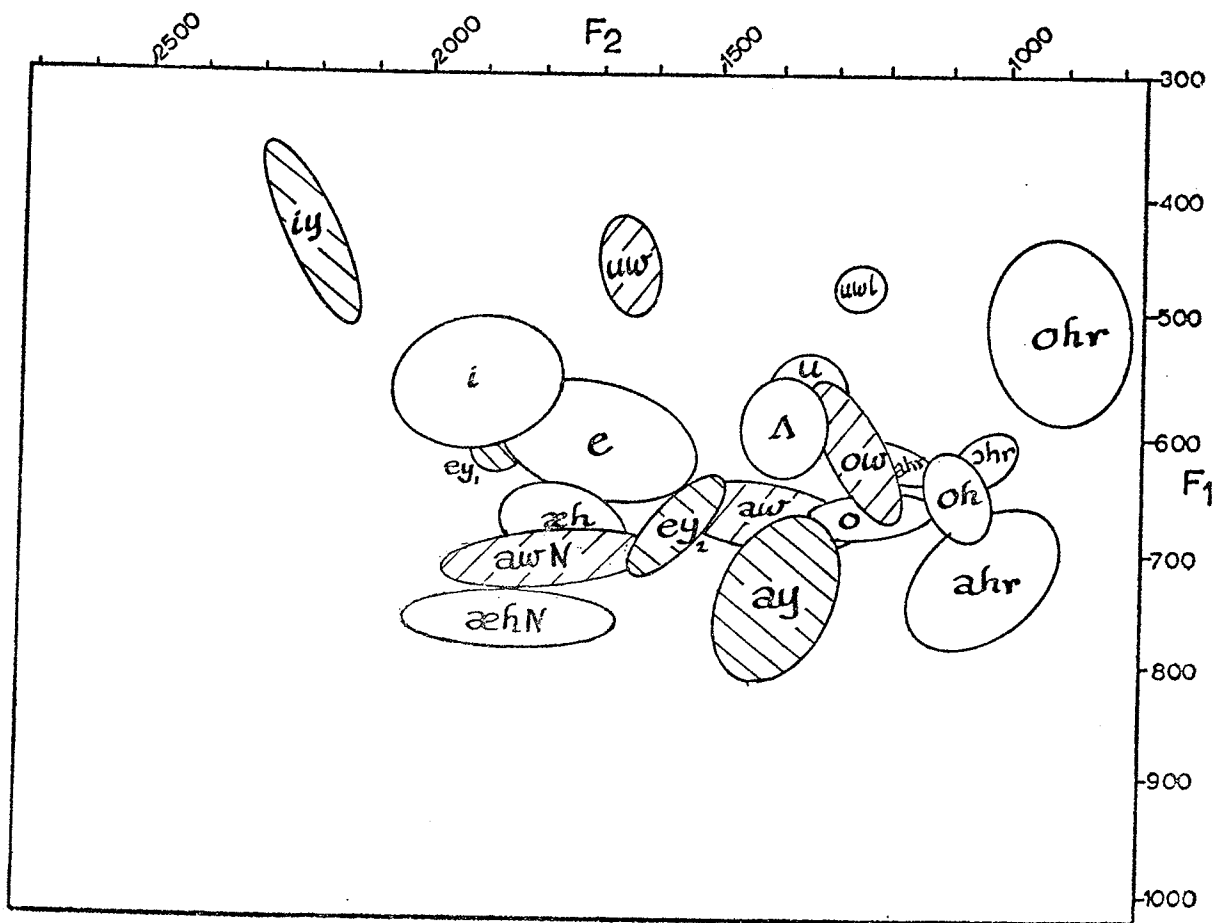
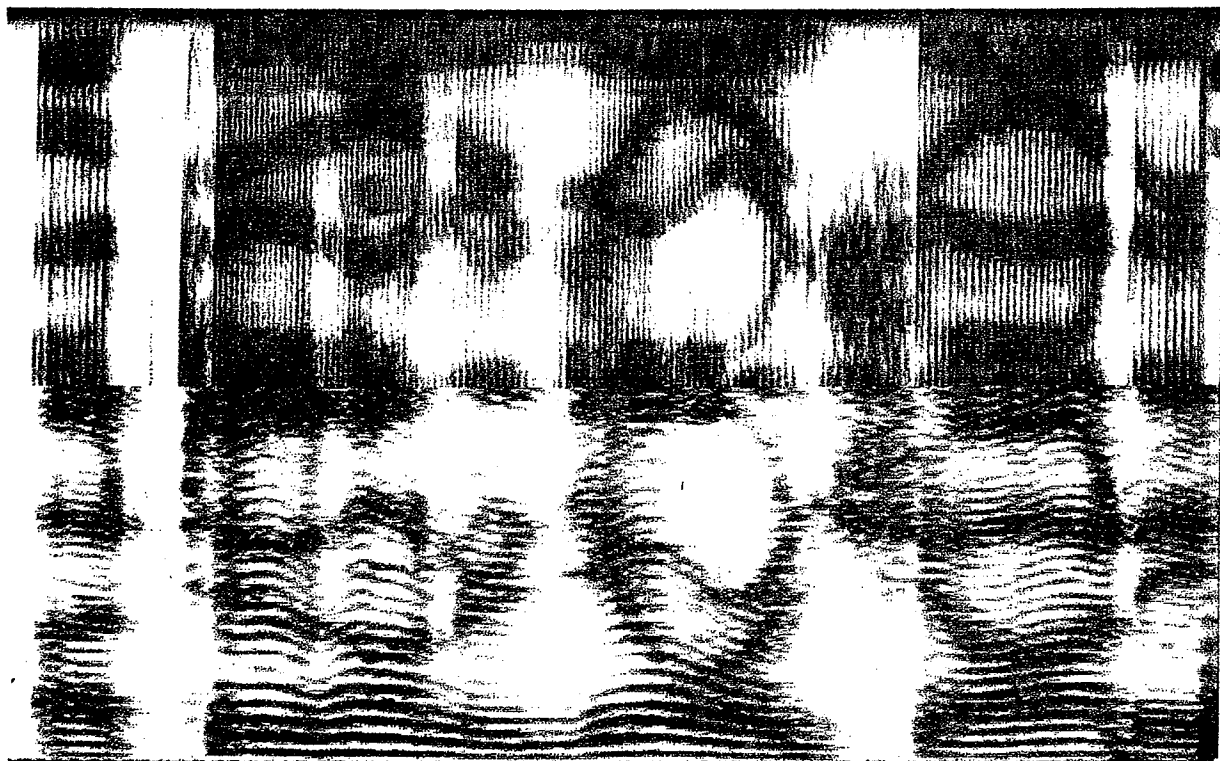


Figure 52. Wade Stokes, 14, Sheffield, Texas.



ə t u h ɹ ɪ ɹ d j oʊ ɹ d ʃ ə d I
 a two hundred yard shot

Figure 2-1. Locating temporal point for measuring vowel nuclei:
 F1 maximum.

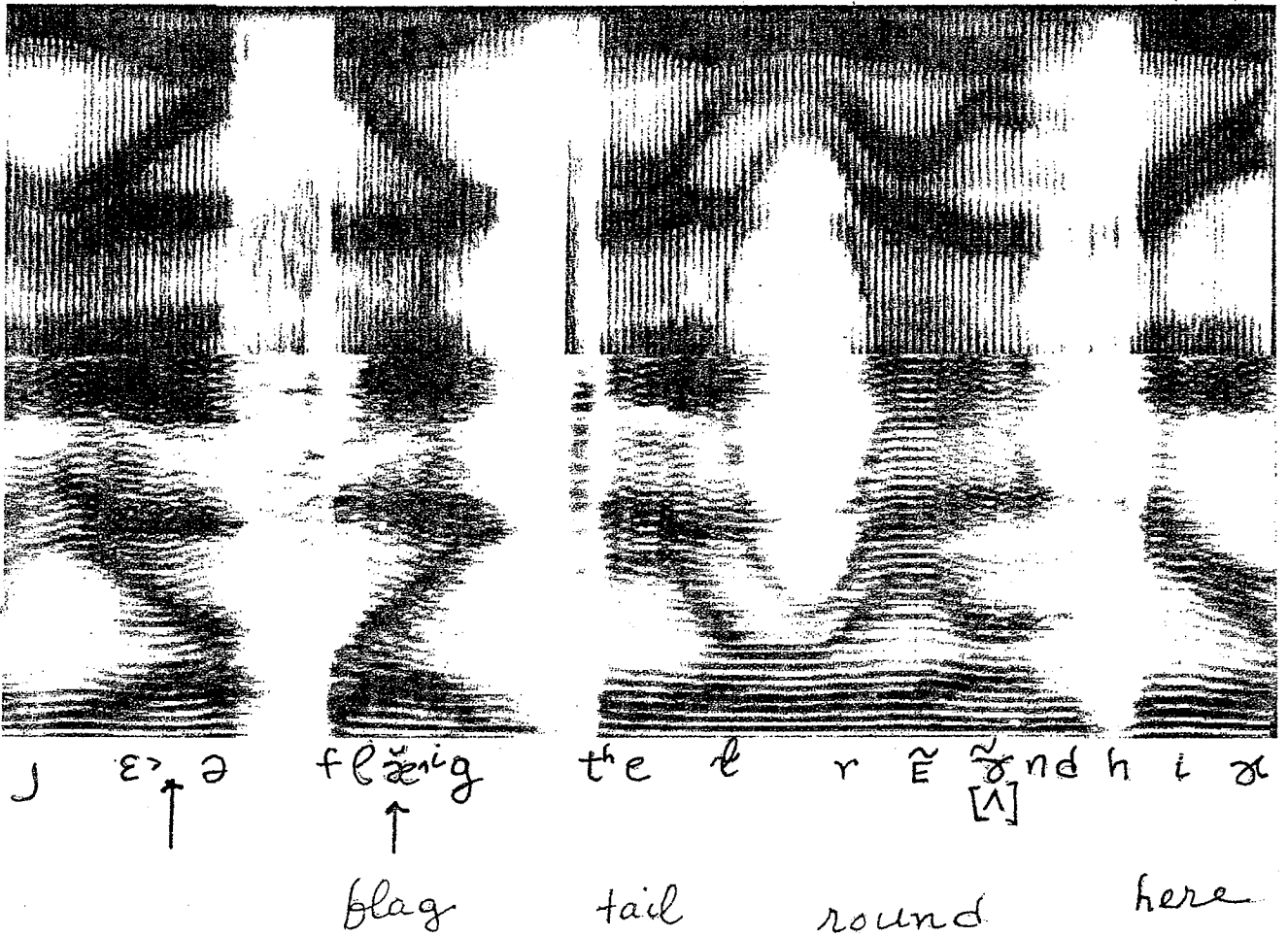
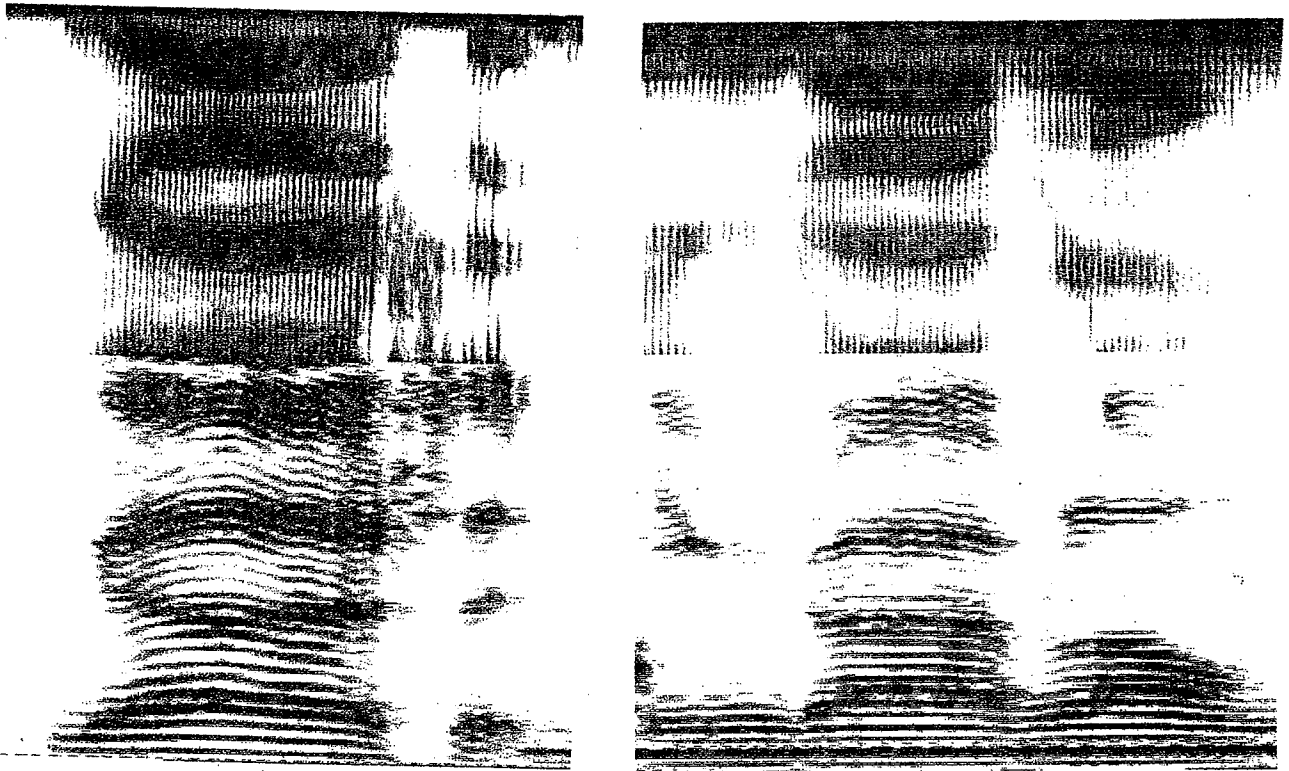


Figure 2-2. Locating temporal point for measuring vowel nuclei:
F2 minimum.



g a< z ðæt
↑
guys that

↑
you n' drive along

Figure 2-3. Locating temporal point for measuring vowel nuclei:
center of F1 and F2 steady state.

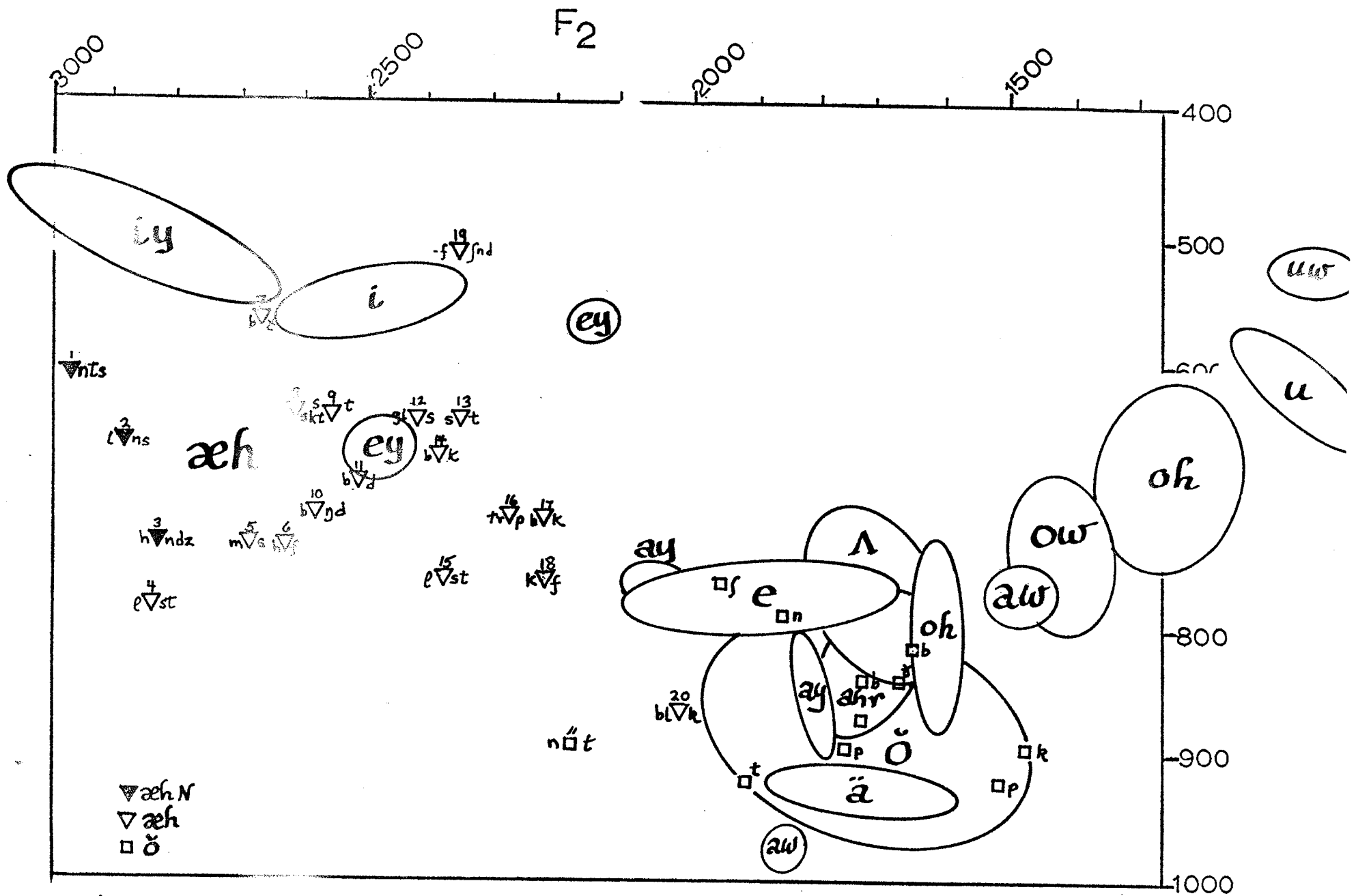


Figure 2-4. Accountability of (æh) distribution for Bea Black, 54, Buffalo.

F₂

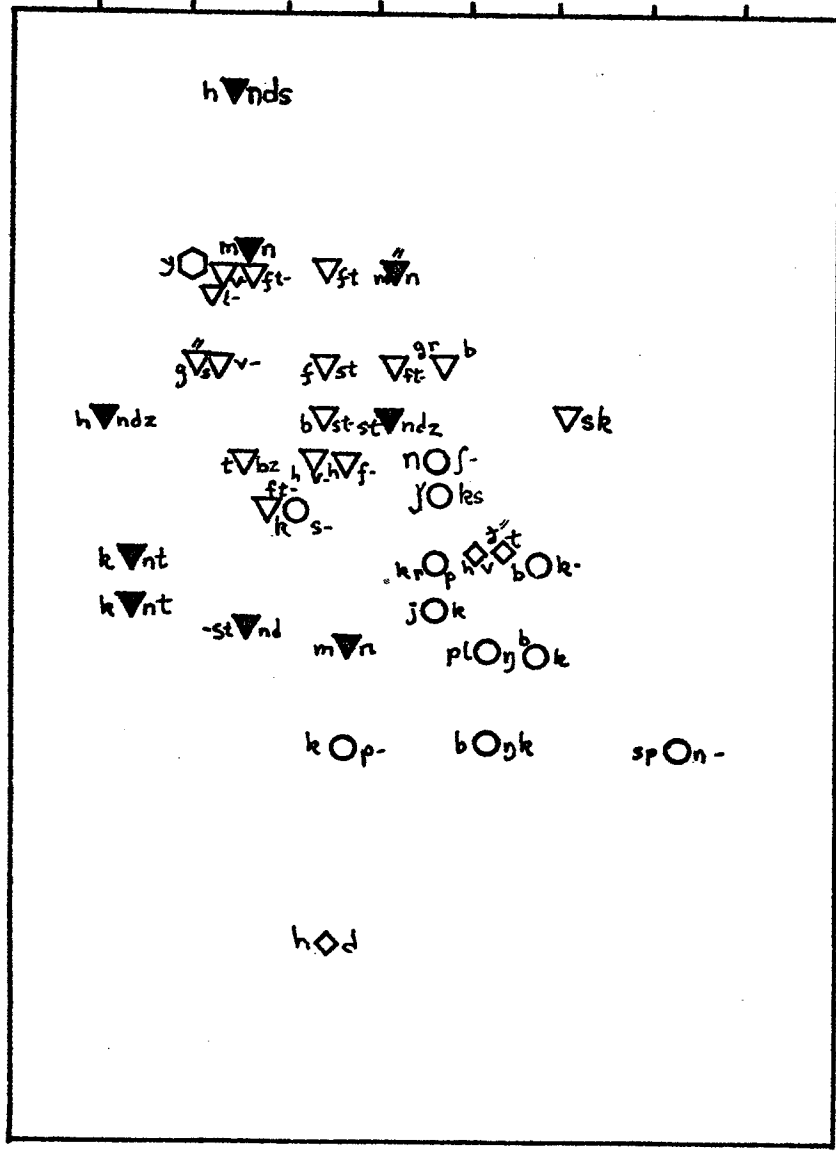


Figure 3-1. (æh) pattern of Chris Andersen, 73, New York City.

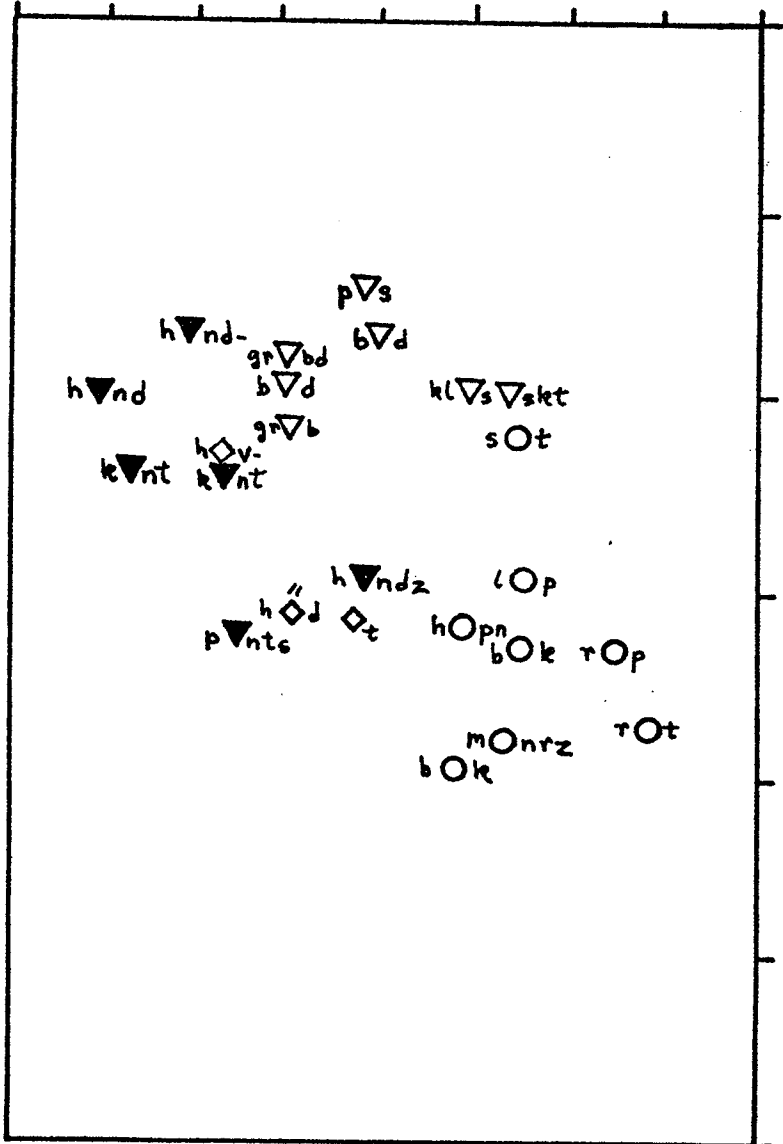


Figure 3-2. (æh) pattern of Jacob Schuster, 57, New York City.

- ▽ æh
- ▽ æhN
- æ
- ◇ +Weak
- yeah

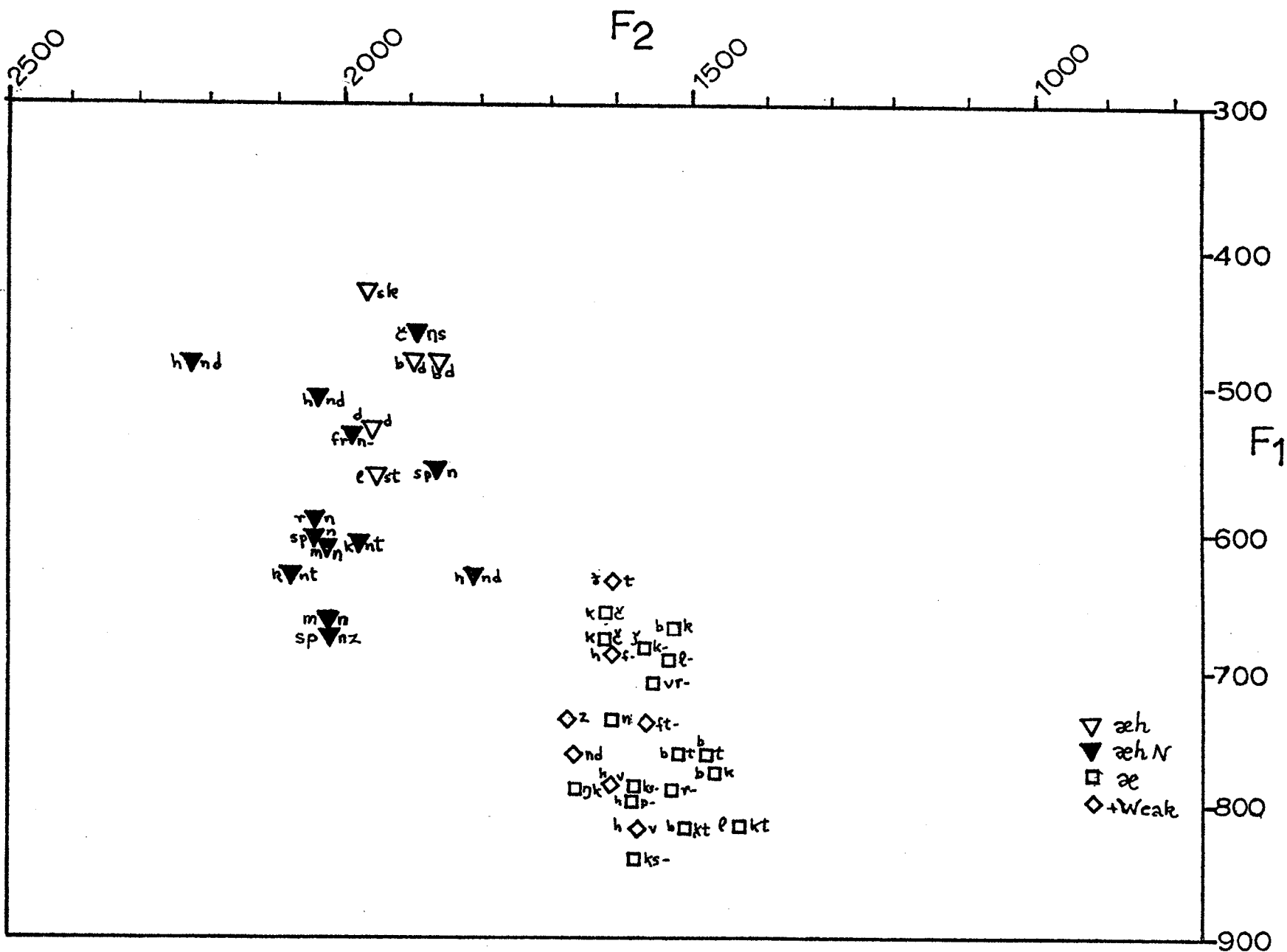
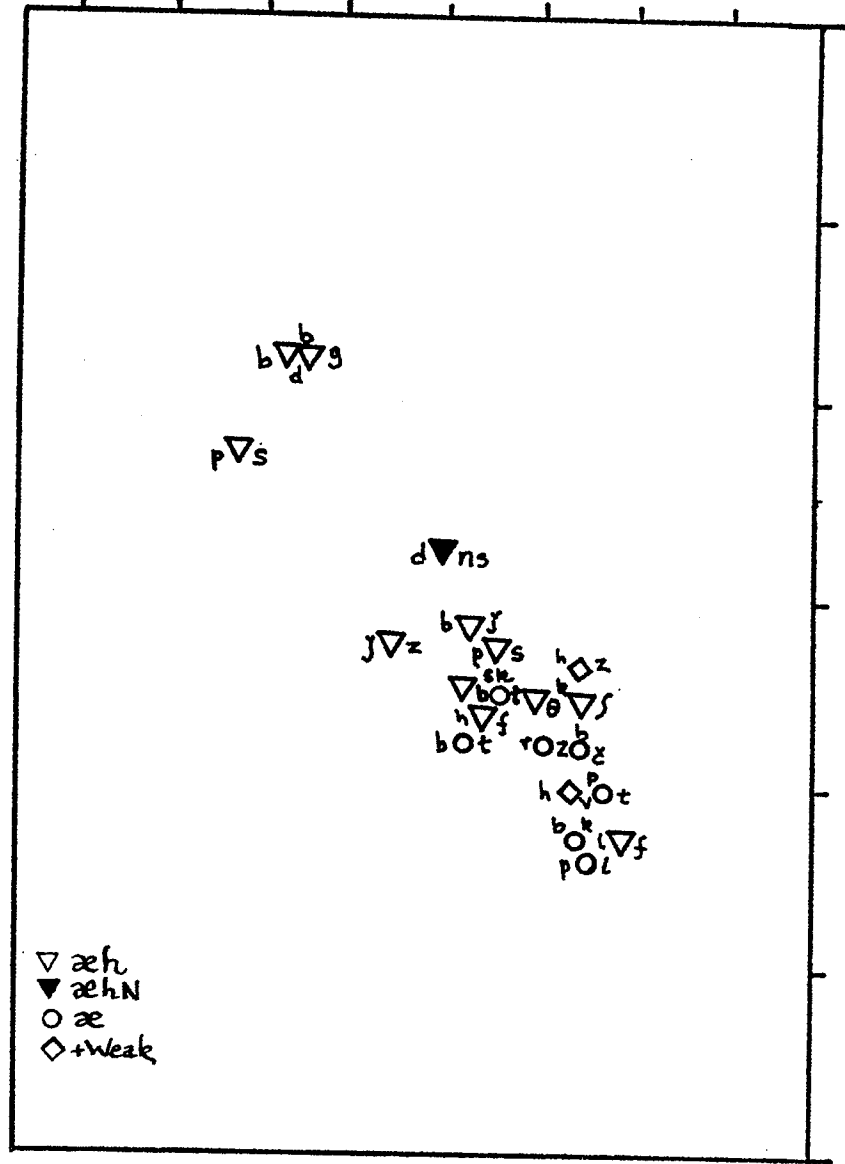
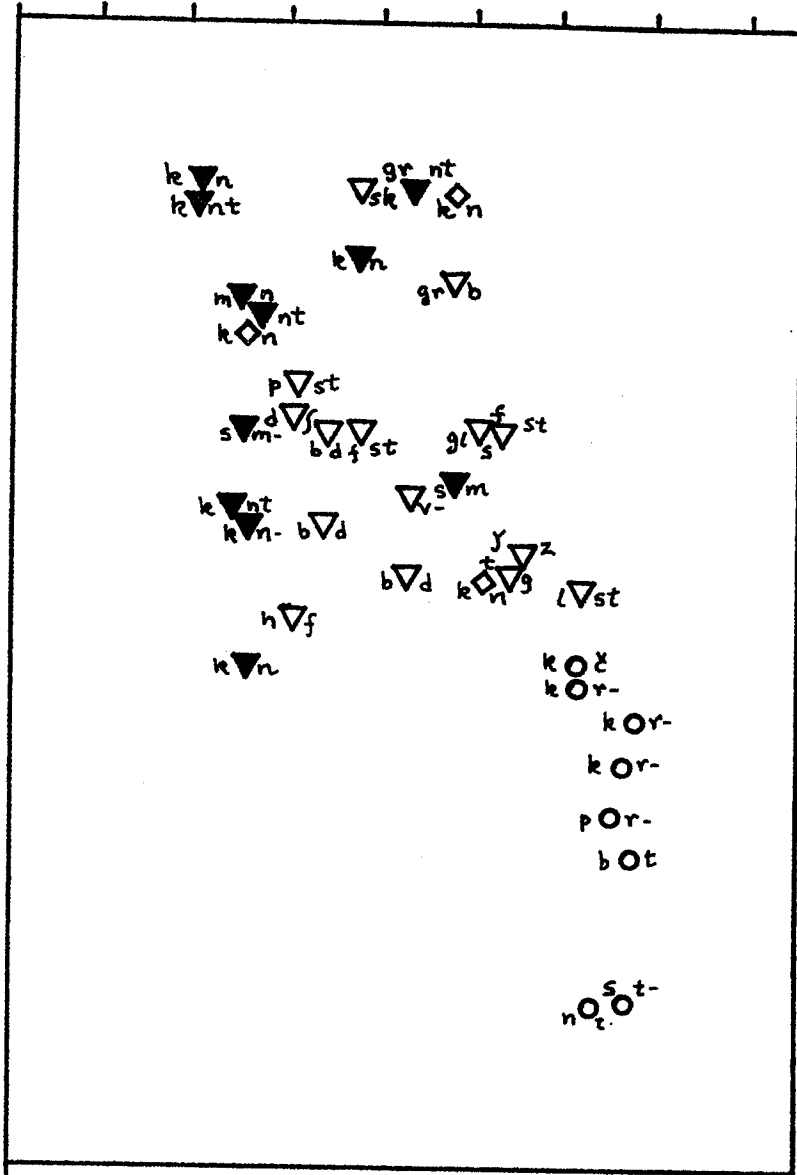


Figure 3-3a. (æh) pattern of Leon Alinsky, 35, New York City:
Style A (casual speech) and B (careful speech).

F₂



(æh) pattern of Leon Alinsky in formal styles.

Figure 3-3b
Style C: reading

Figure 3-3c
Style D: Word Lists

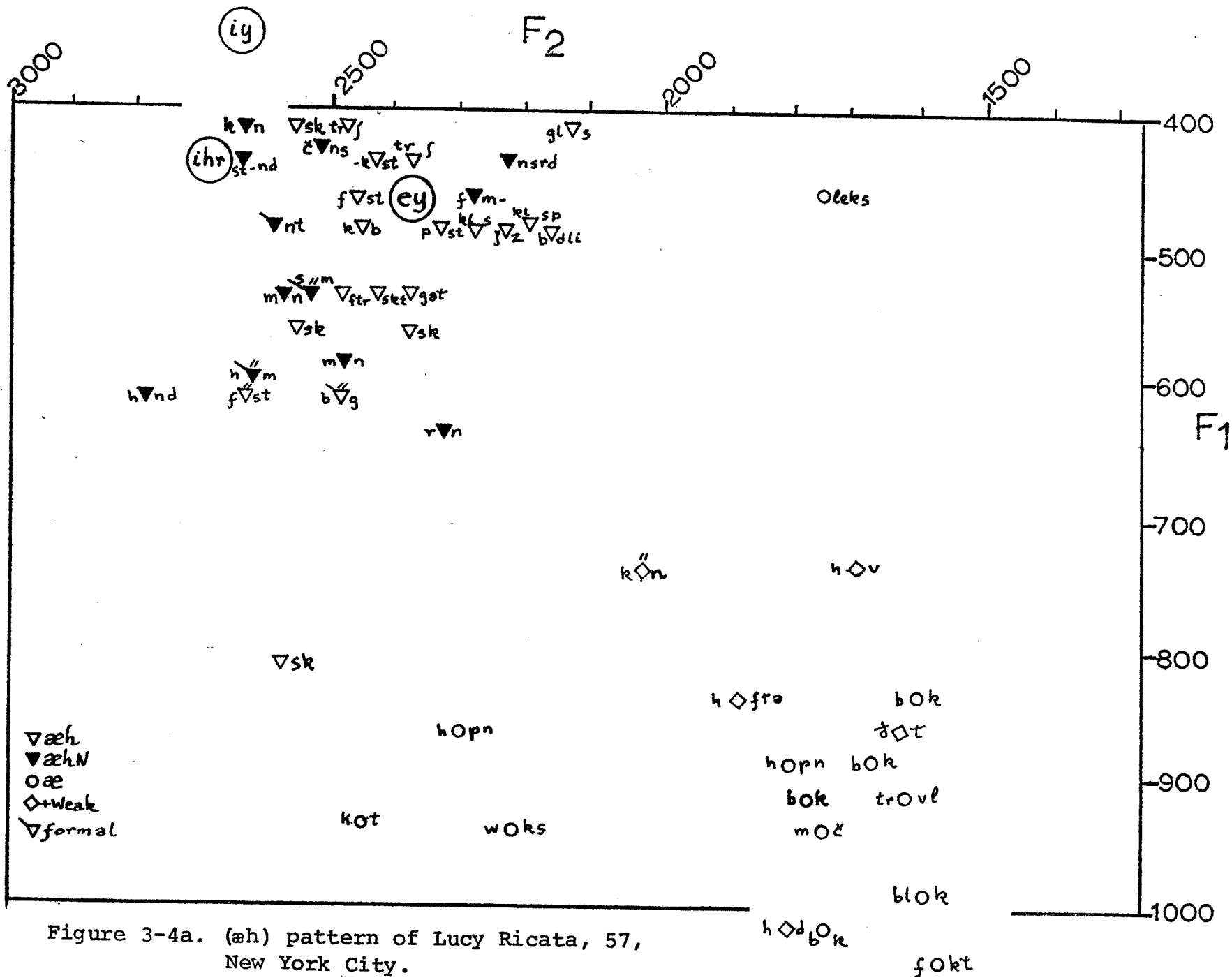


Figure 3-4a. (əh) pattern of Lucy Ricata, 57, New York City.

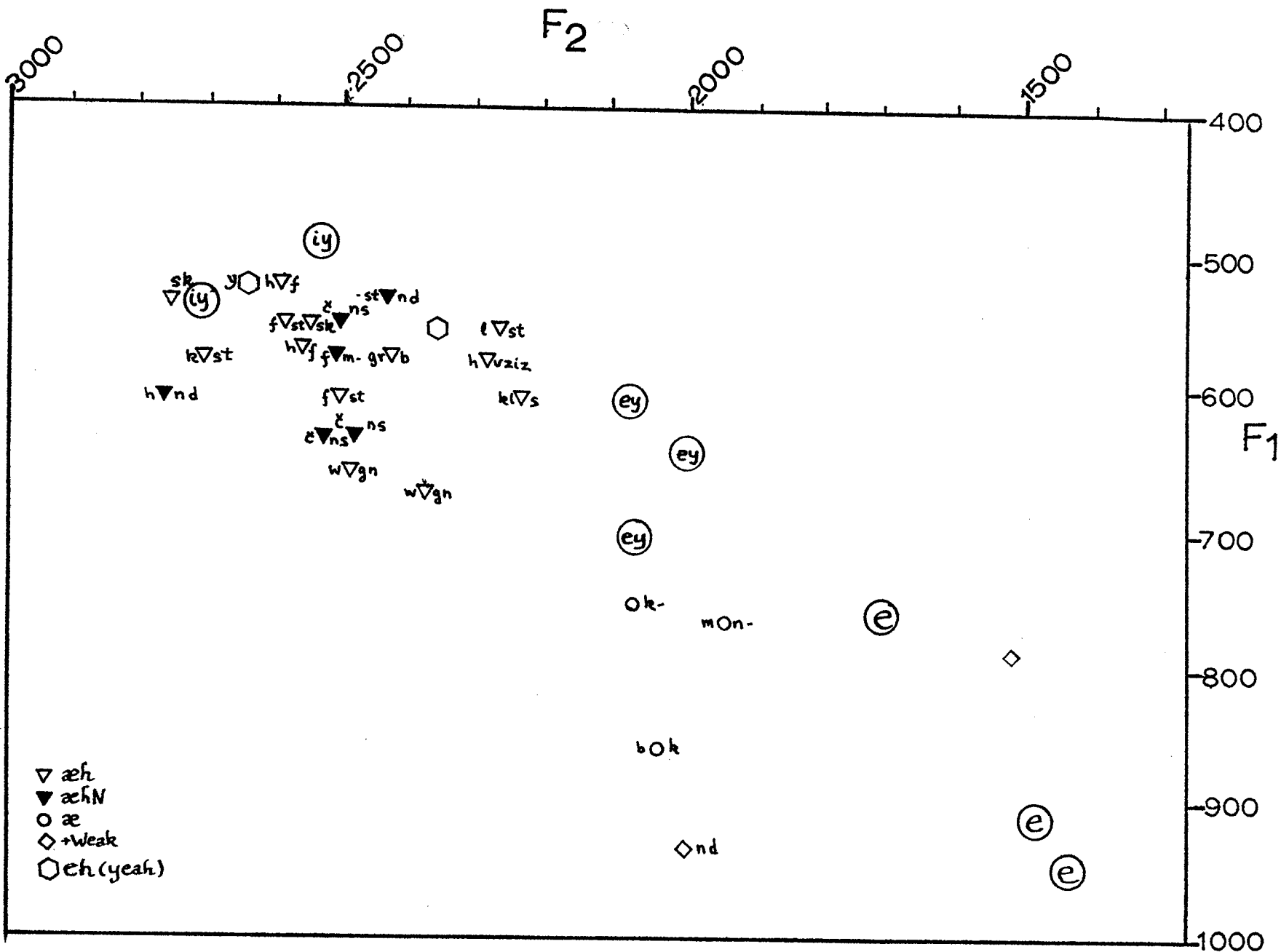


Figure 3-5. (æh) pattern for Rose Calissi, 42, New York City.

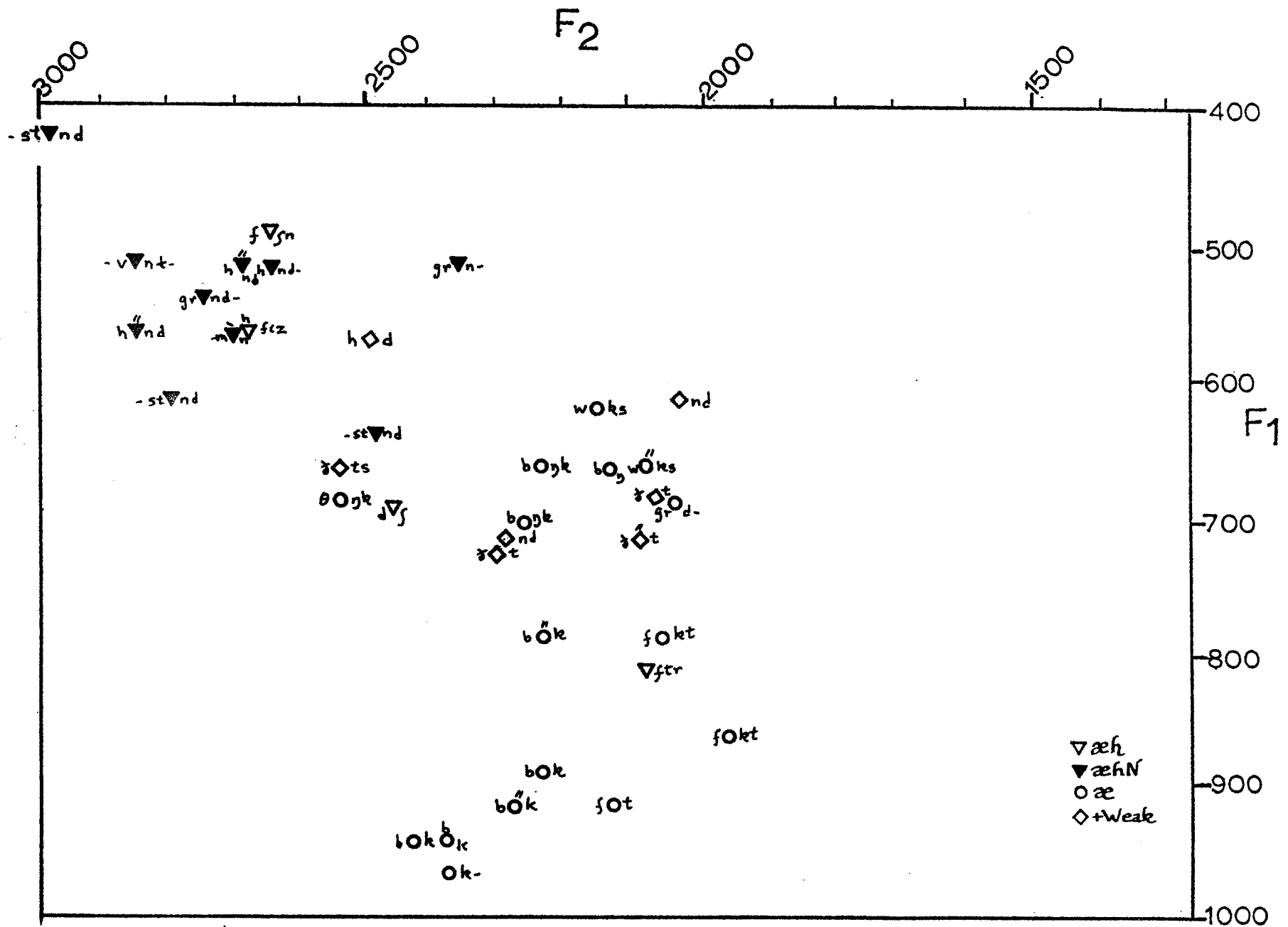


Figure 3-6. (æh) pattern for Rose Bendato, 31, New York City.

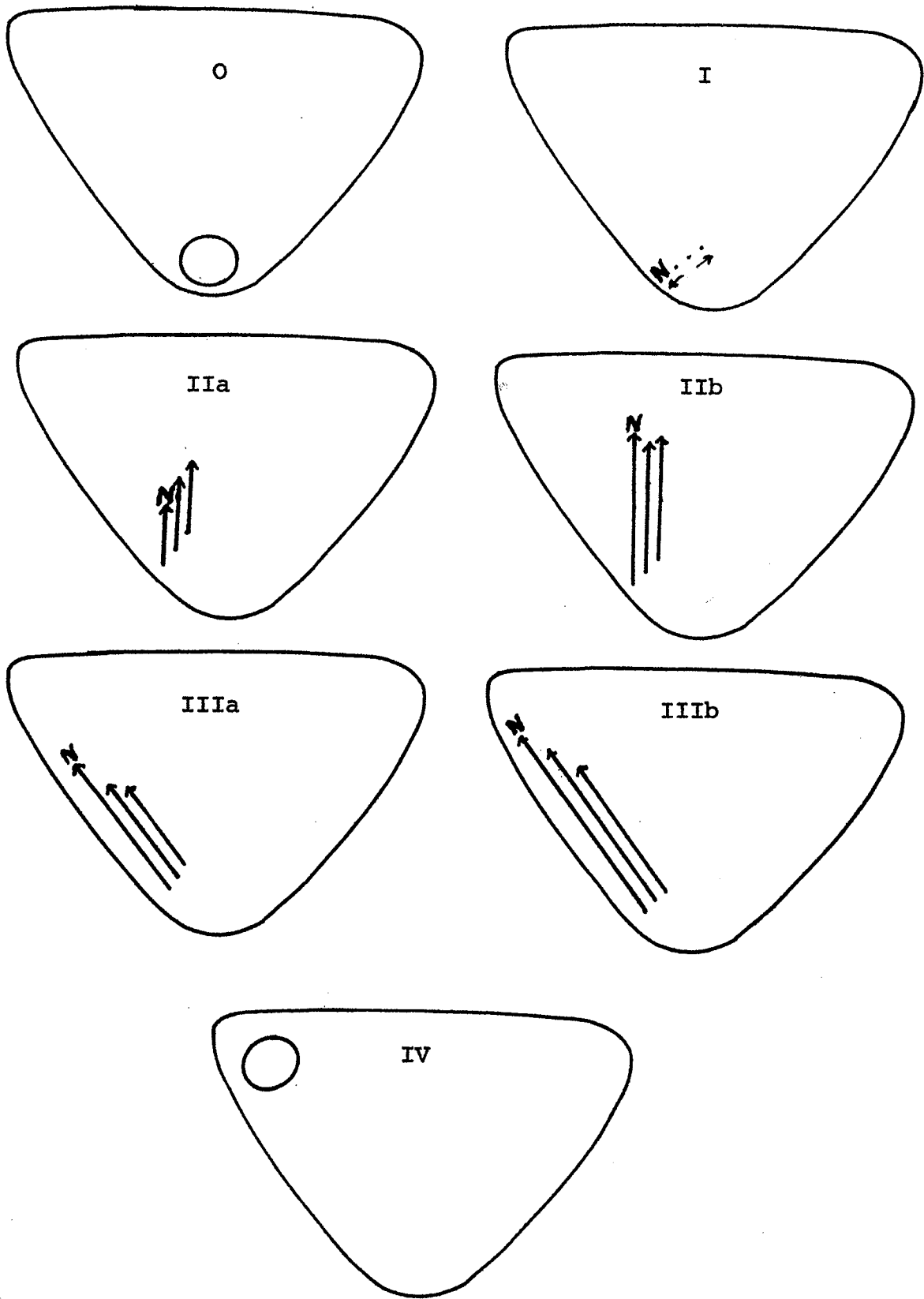


Figure 3-7. Four stages in the raising of (∞h) .

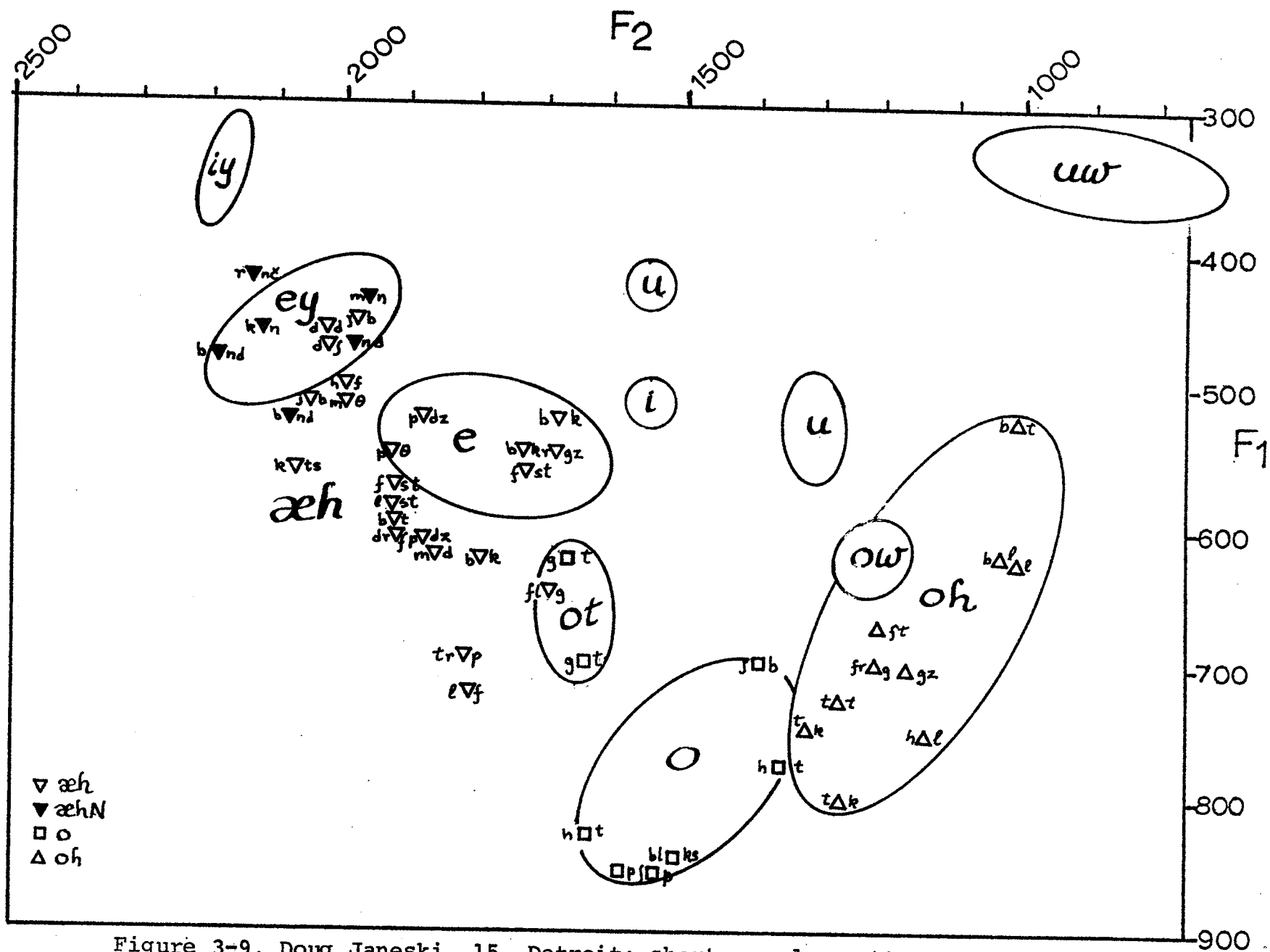


Figure 3-9. Doug Janeski, 15, Detroit: short a and o pattern.

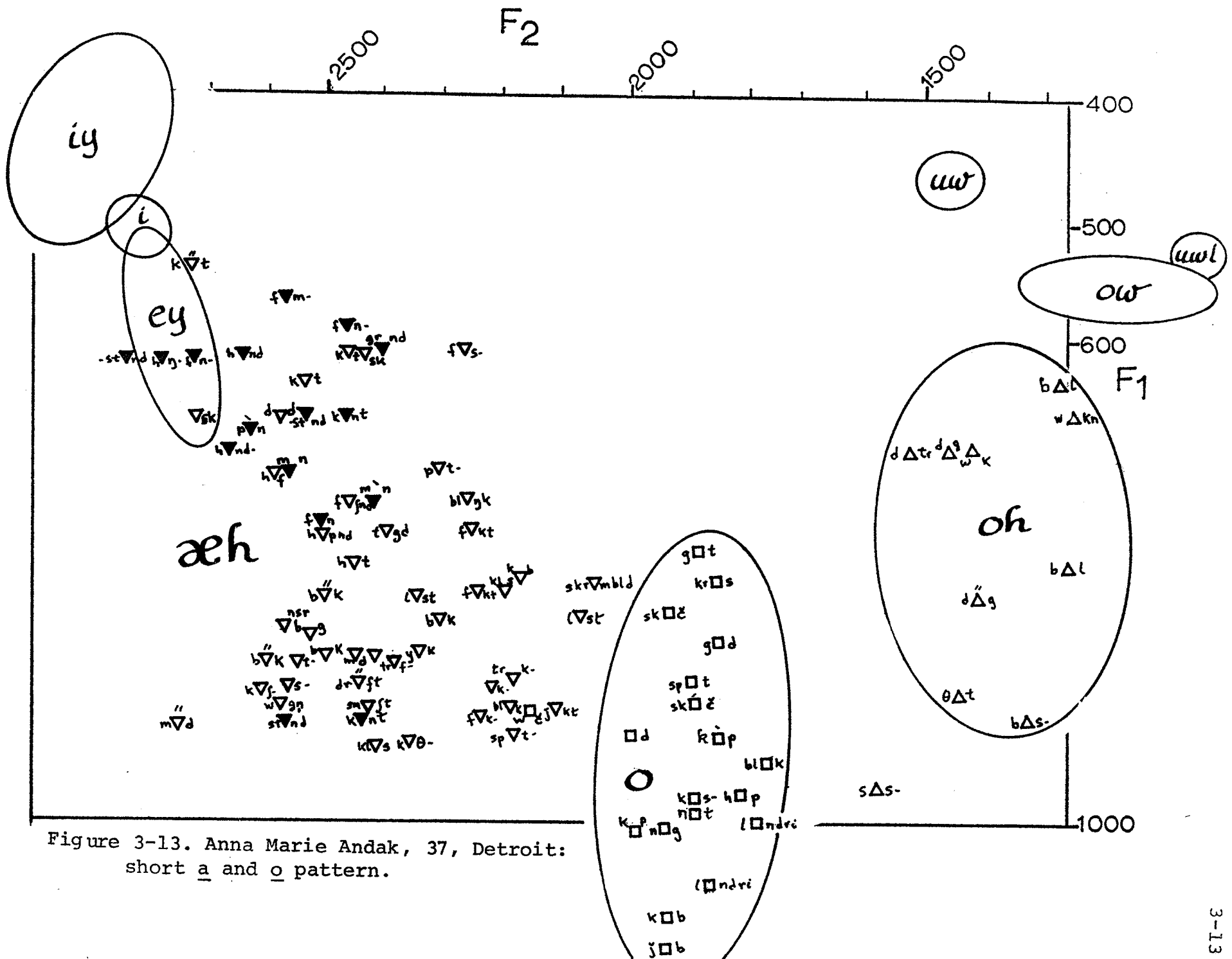


Figure 3-13. Anna Marie Andak, 37, Detroit: short a and o pattern.

F₂

3000

2500

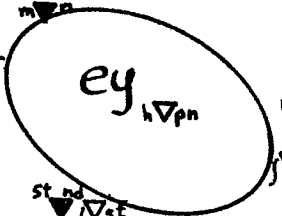
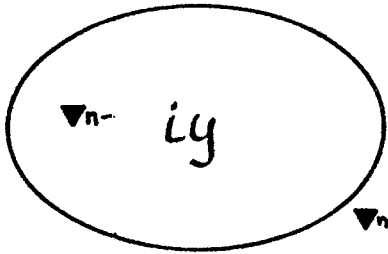
2000

1500

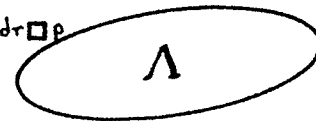
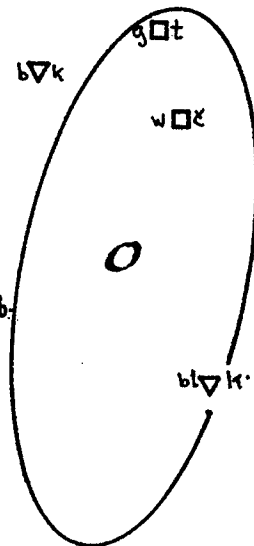
Figure 3-14. Aliza Katz, 8, Buffalo:
short a and o pattern.

400

500



æh



kΔt

hΔz

hΔt

nsr

st m

mΔs

bΔk

ft

kΔt

mΔs

gΔs
krΔfts

bΔk

kΔt

bΔk

o

drΔp

Λ

hΔg

rΔb

blΔh

blΔk

lΔgz

800

900

1000

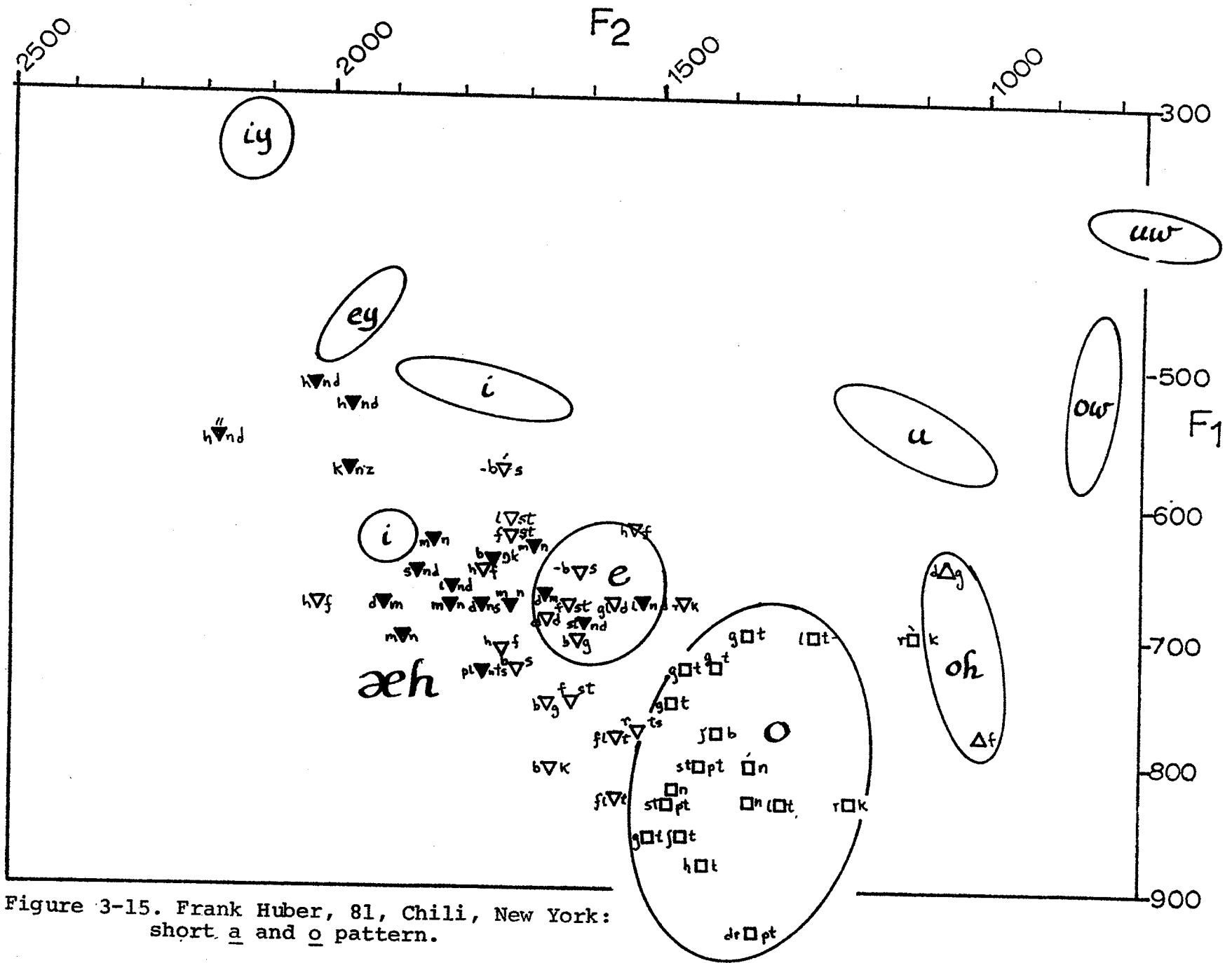


Figure 3-15. Frank Huber, 81, Chili, New York:
short a and o pattern.

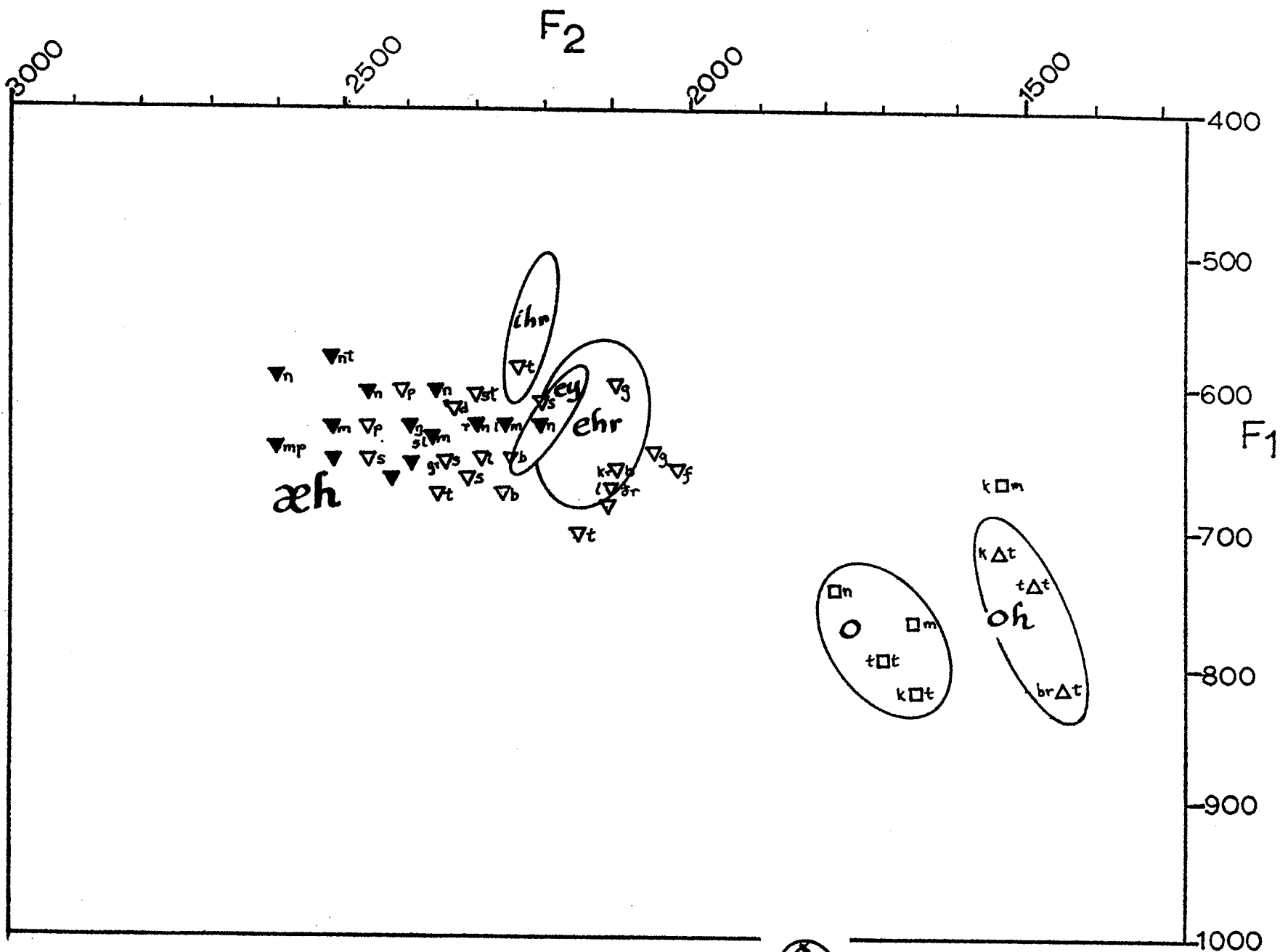


Figure 3-18. Carol Muehe, 16, Chicago:



reading style.

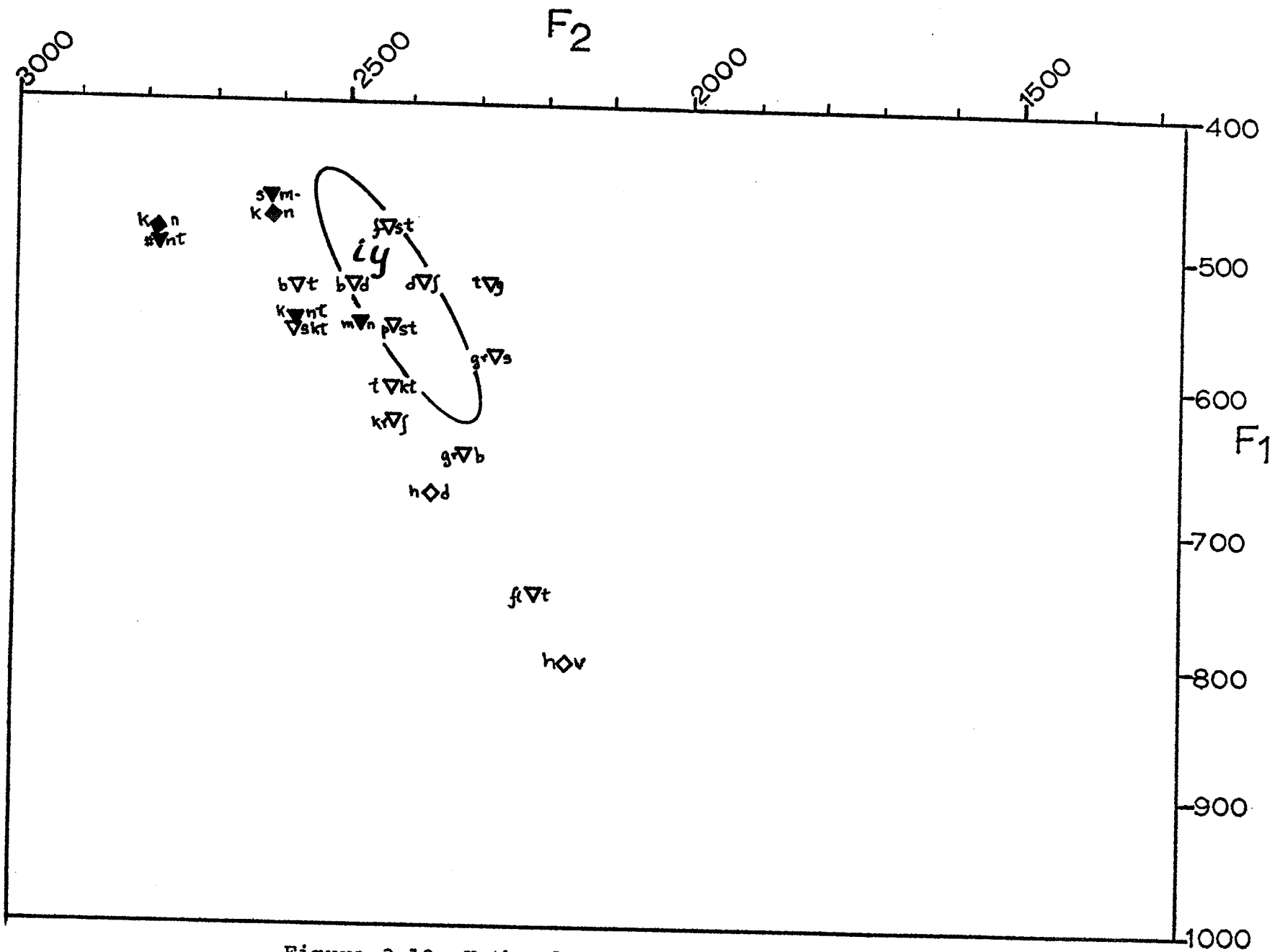
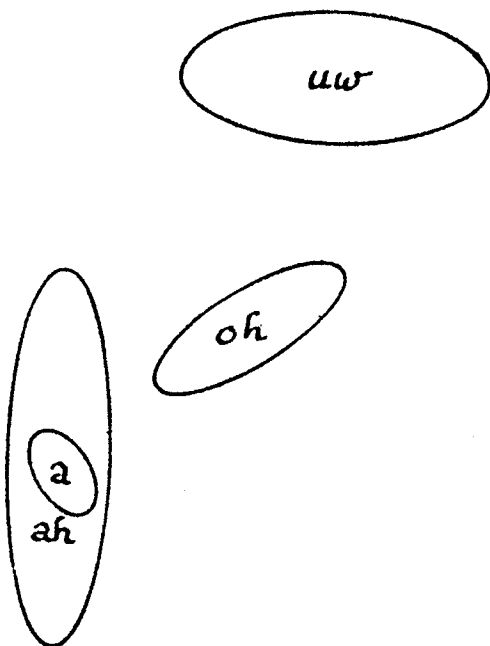
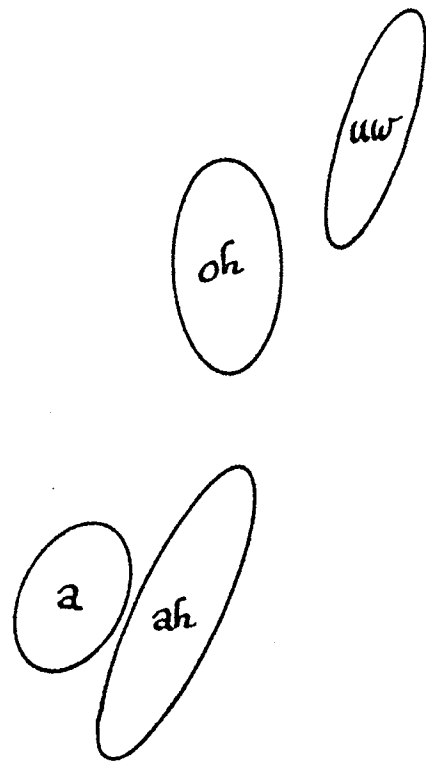


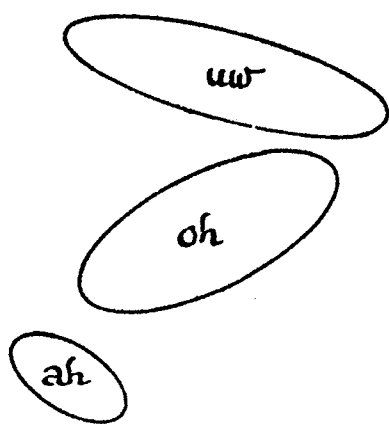
Figure 3-19. Kathy from Detroit, 15: reading style.



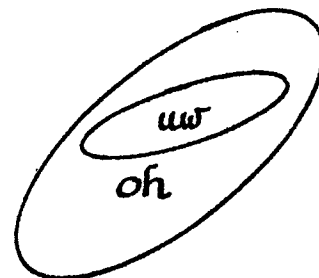
(a) Chris Andersen, 73



(b) Jacob Schuster, 57



(c) Christine Nasca, 59



(d) Rose Calissi, 42

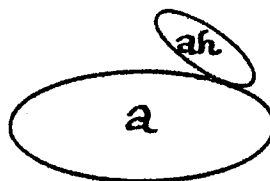
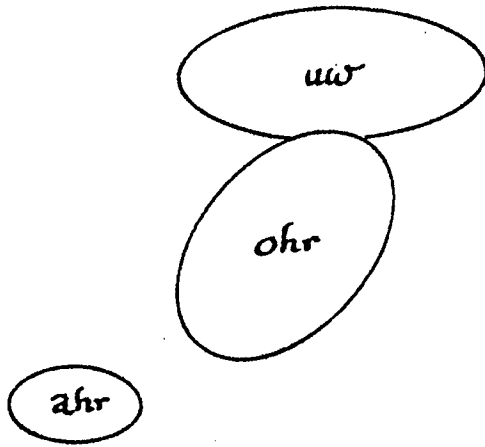
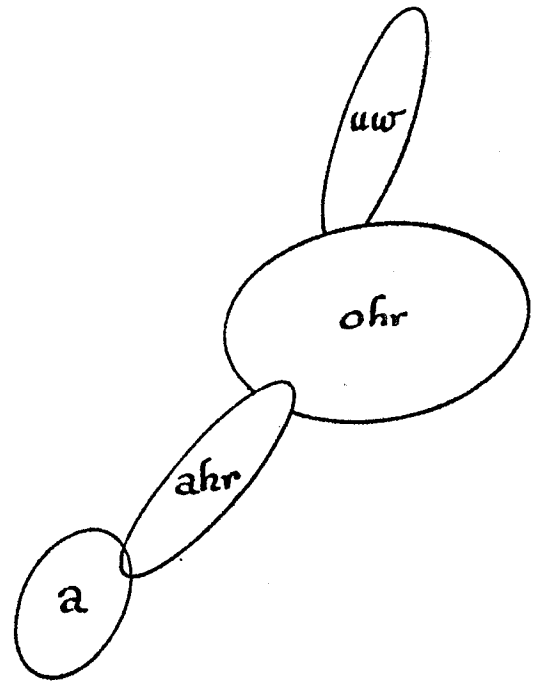


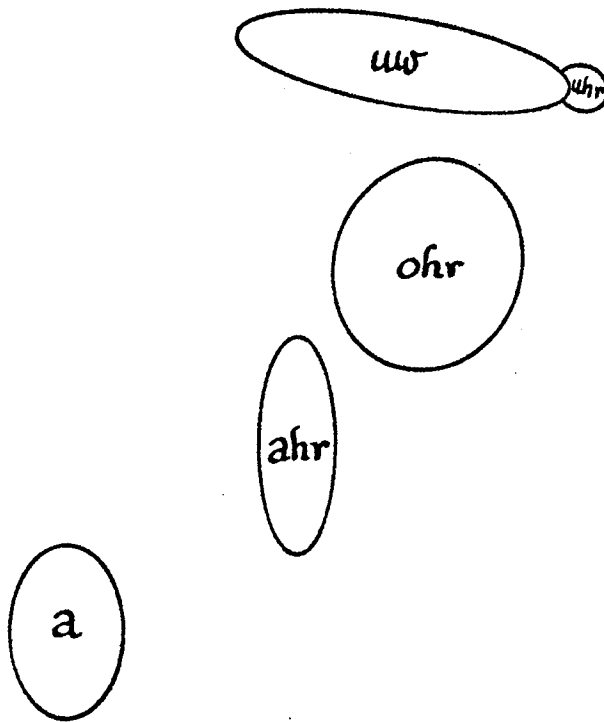
Figure 3-20. Chain shift ah → oh → in New York City.



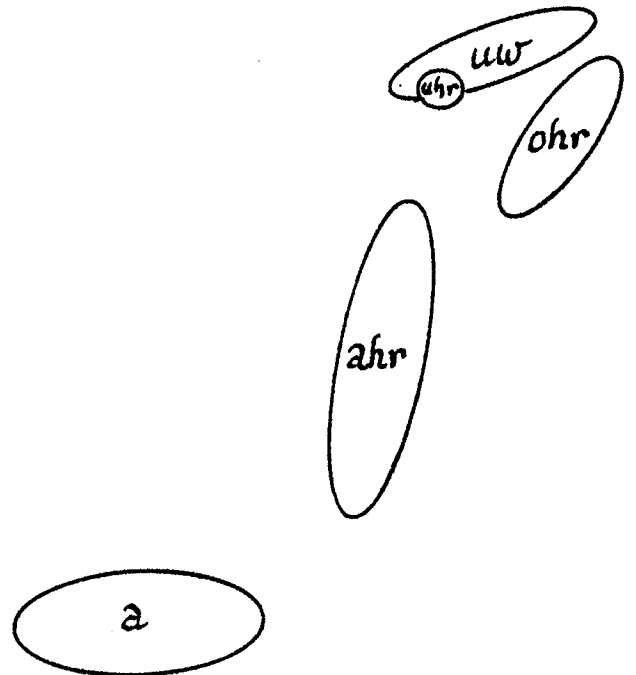
(a) Chris Andersen, 73



(b) Jacob Schuster, 57



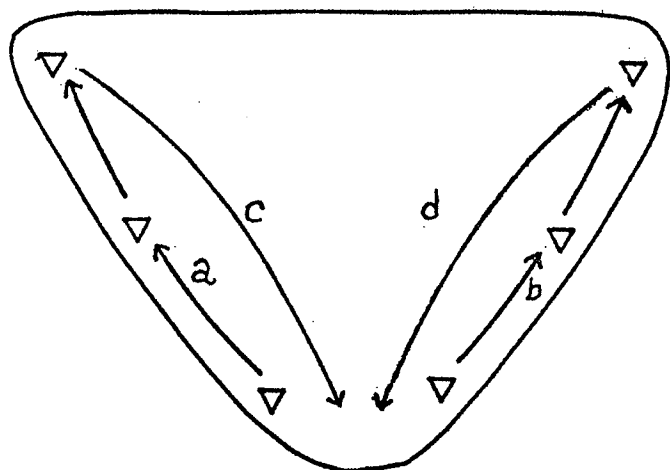
(c) Christine Nasca, 59



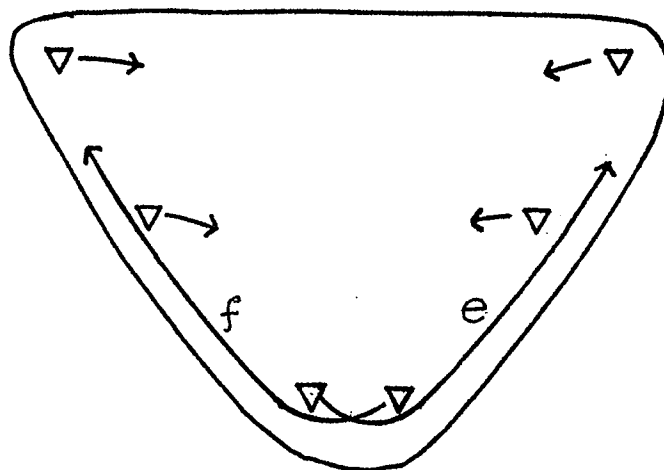
(d) Rose Calissi, 42

Figure 3-21. Chain shift ahr → ohr → uhr in New York City.

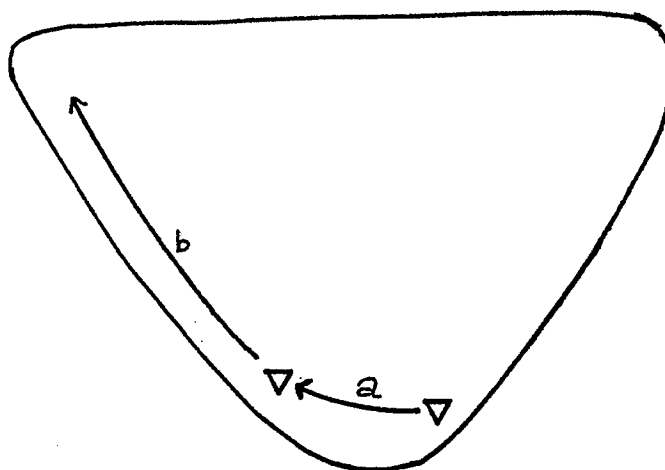
Pattern 1



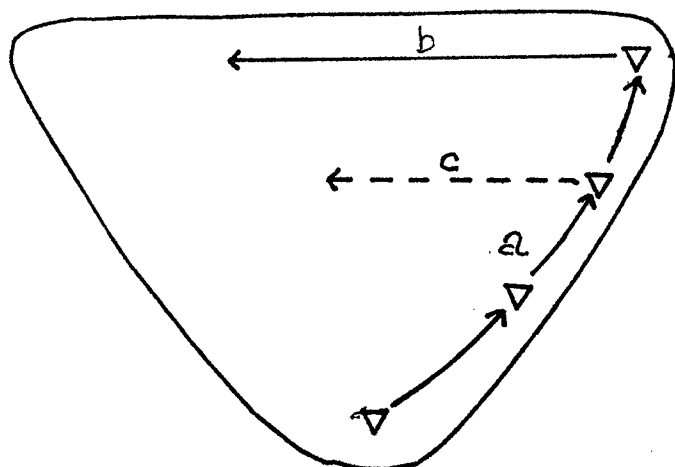
Pattern 1'



Pattern 2



Pattern 3



Pattern 4

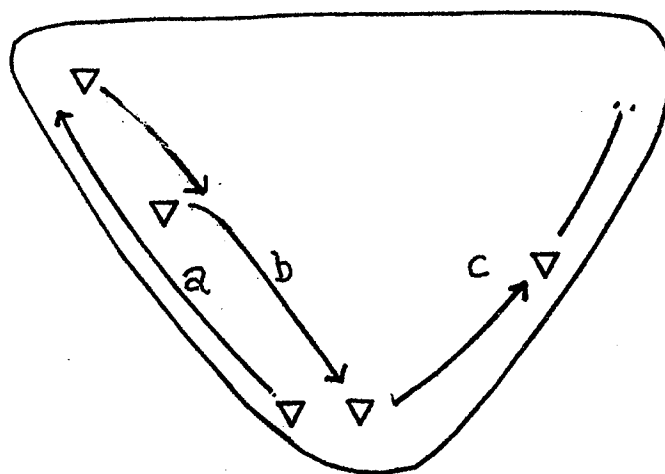


Figure 4-1. Four patterns of chain shifting.

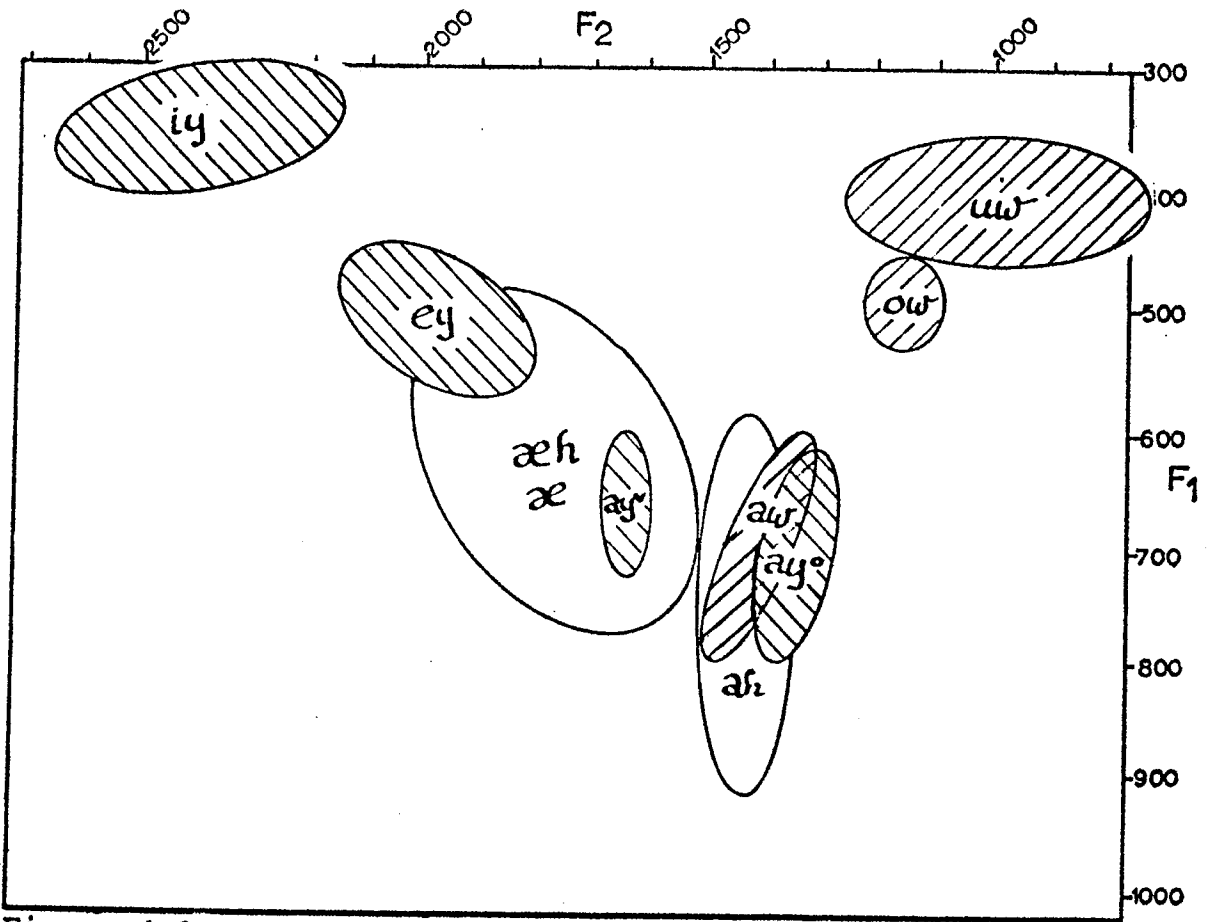


Figure 4-2. Extension of Pattern 1: Pattern 1'. Vy and Vw of Chris Andersen, 73, New York City.

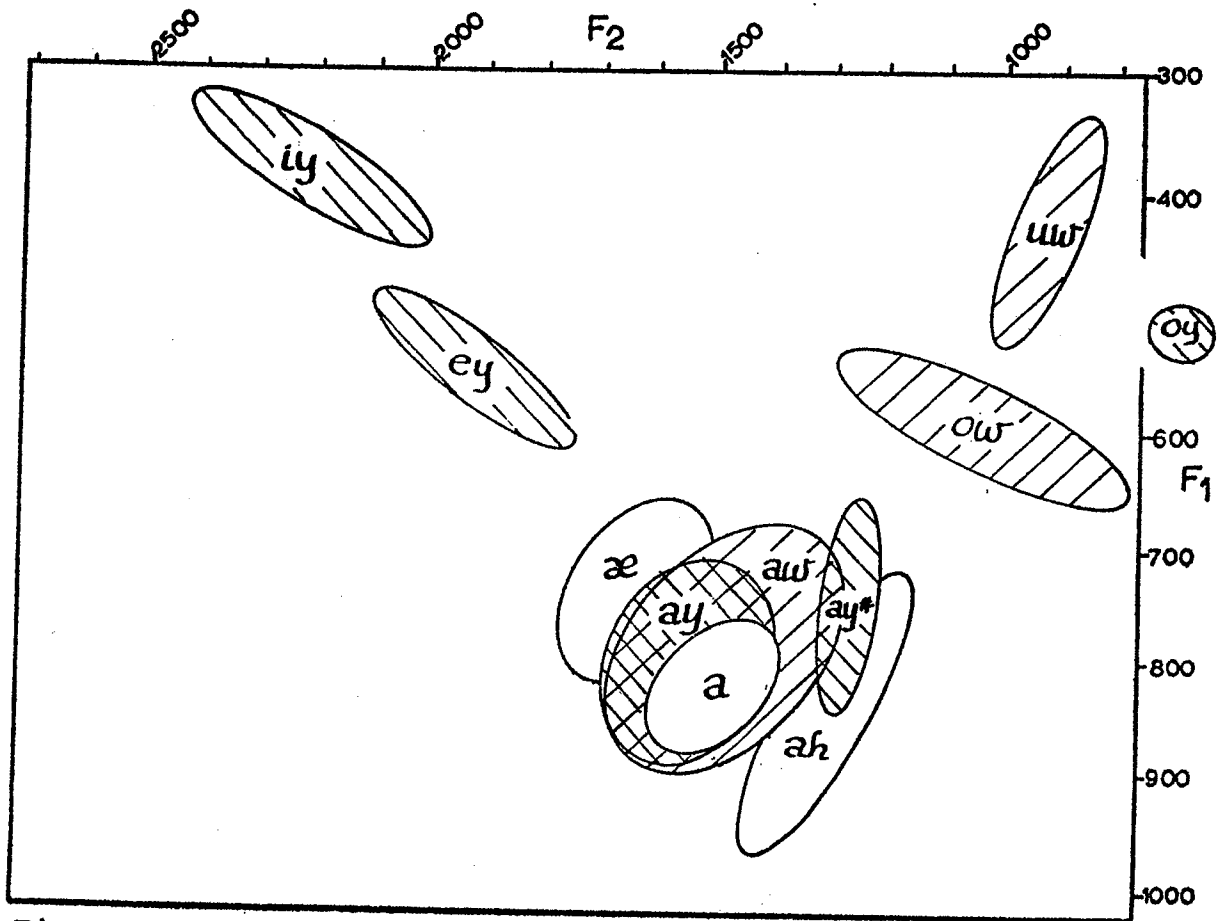


Figure 4-3. Vy and Vw shift of Jacob Schuster, 57, New York.

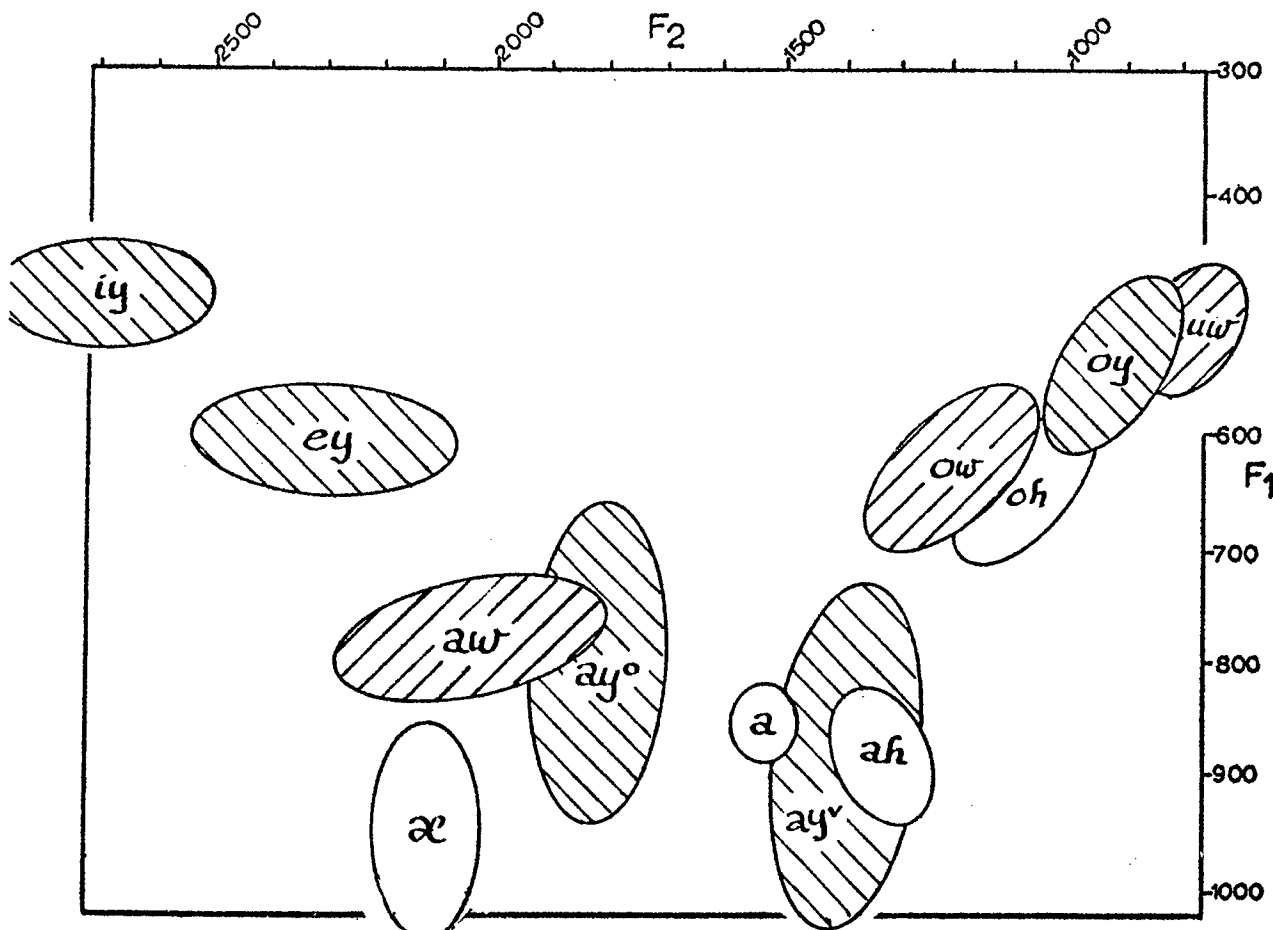


Figure 4-4. Vy and Vw shift of Rose Bendato, 31, New York City.

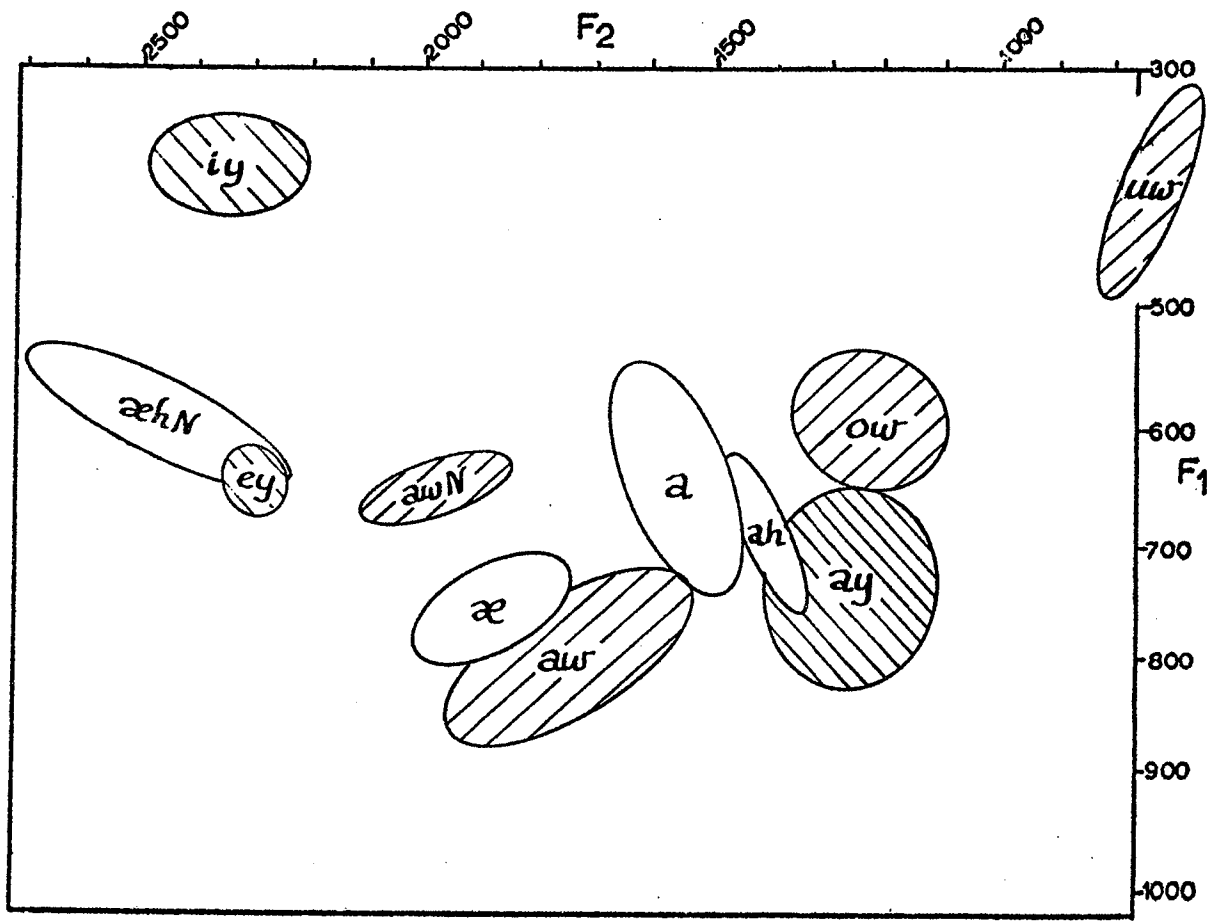


Figure 4-5. Vy and Vw shift for Sue Palma, 37, New York.

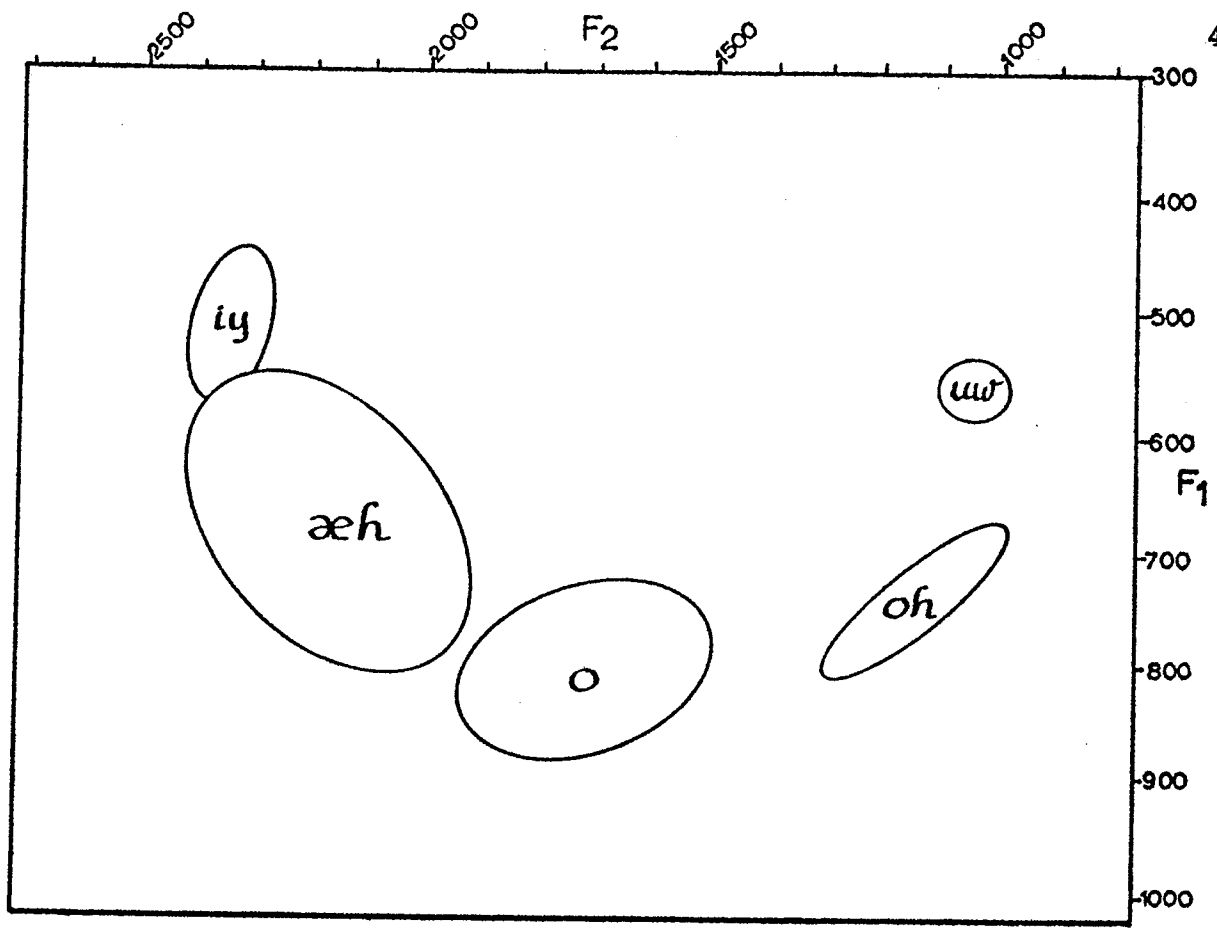


Figure 4-6. Northern shift in Buffalo: Mrs. Beck, 76.

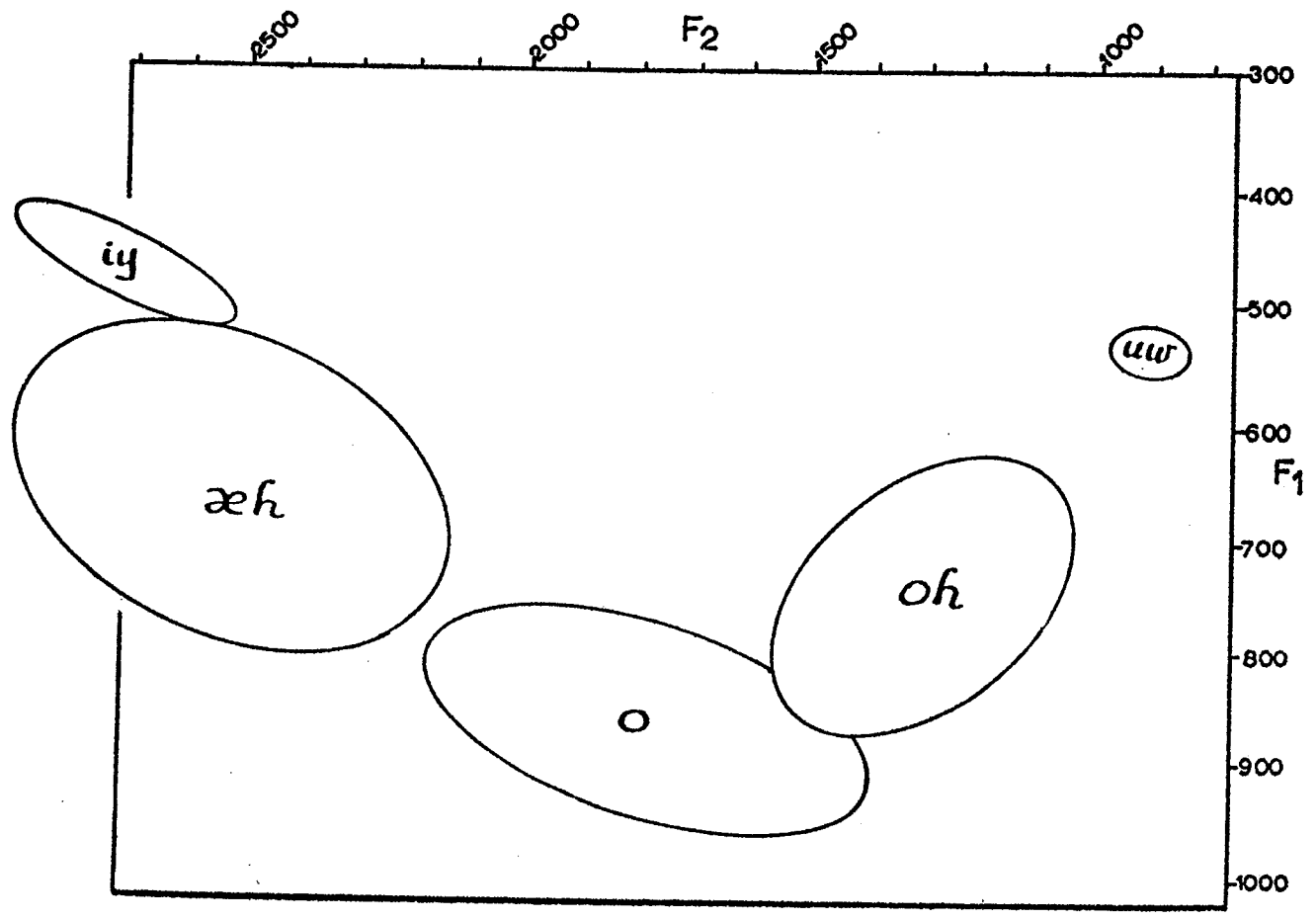


Figure 4-7. Northern shift in Buffalo: Bea Black, 54.

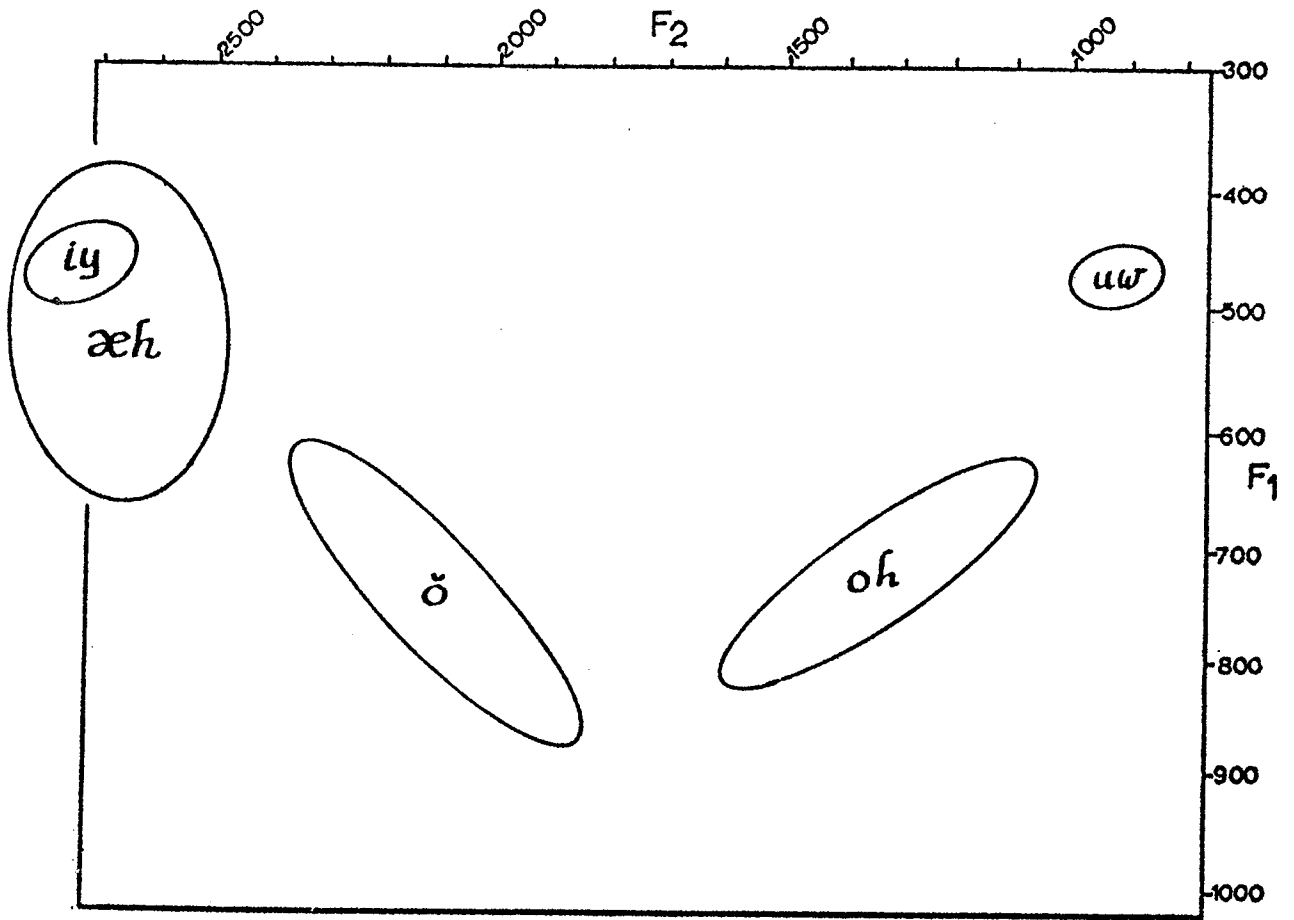


Figure 4-8. Northern shift in Buffalo: Flo Danowski, 39.

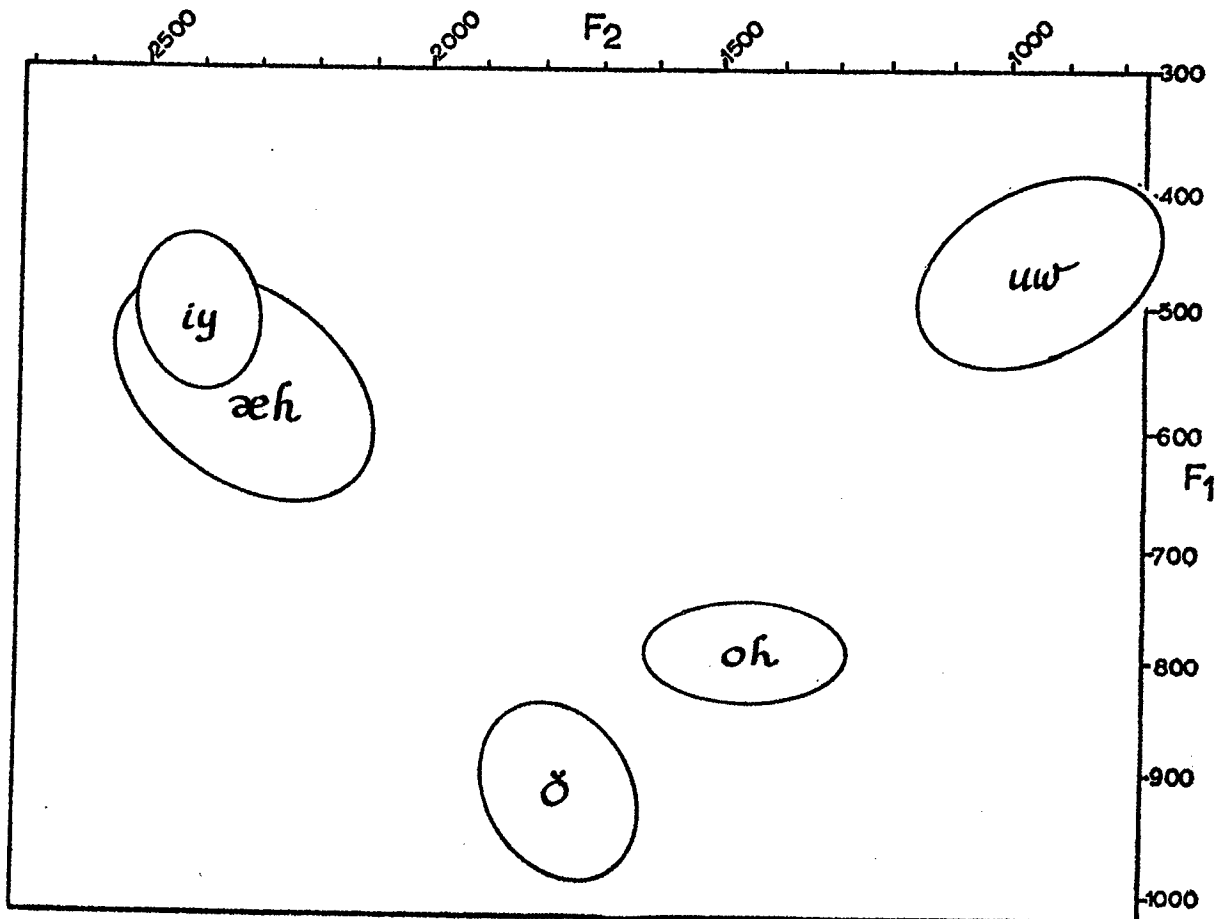


Figure 4-9. Northern shift in Rochester: Joyce Norton, 17.

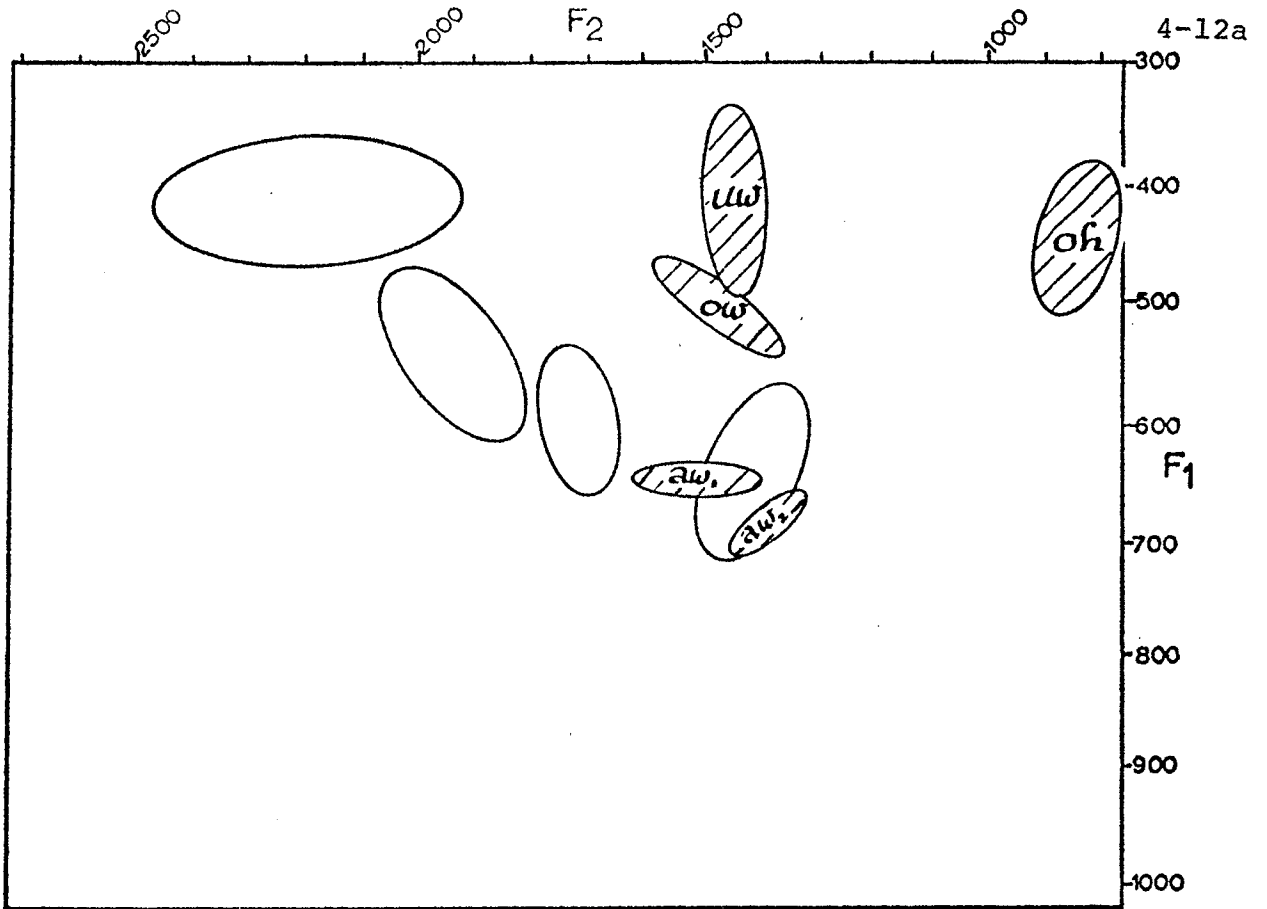


Figure 4-12a. Pattern 3 chain shift in London: Tom Stokes, 83.

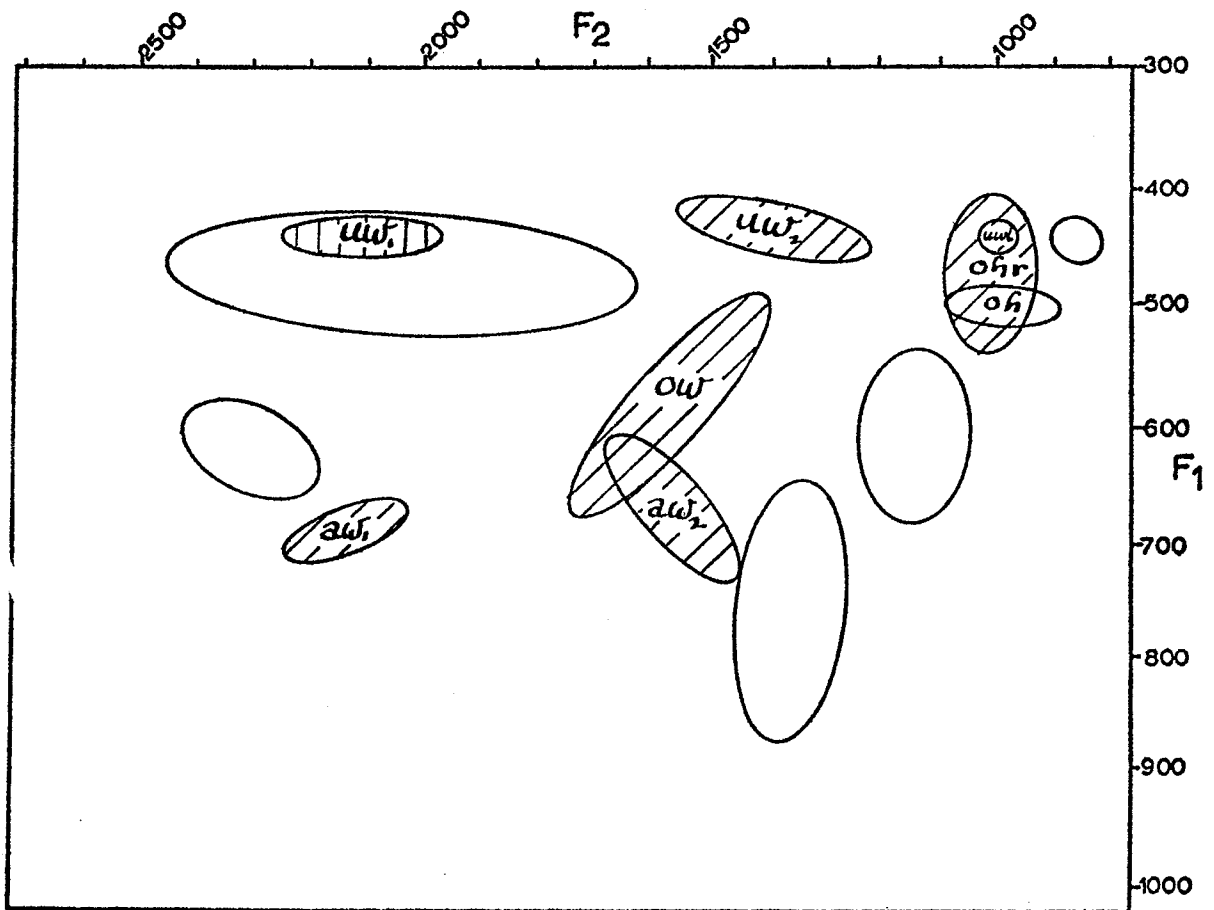


Figure 4-12b. Pattern 3 chain shift in London: Bob Frost, 31.

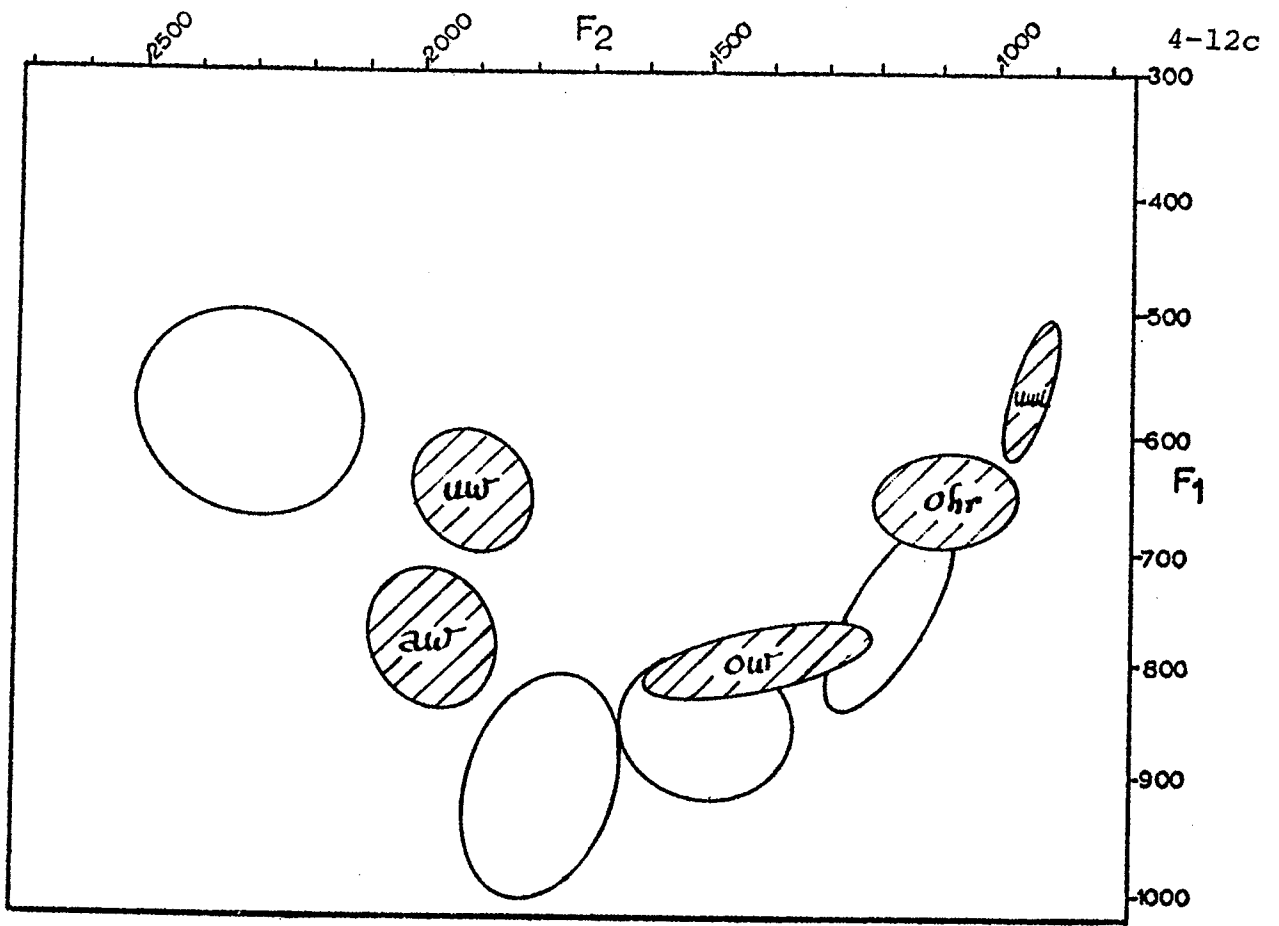


Figure 4-12c. Pattern 3 chain shift in London: Marie Colville, 39.

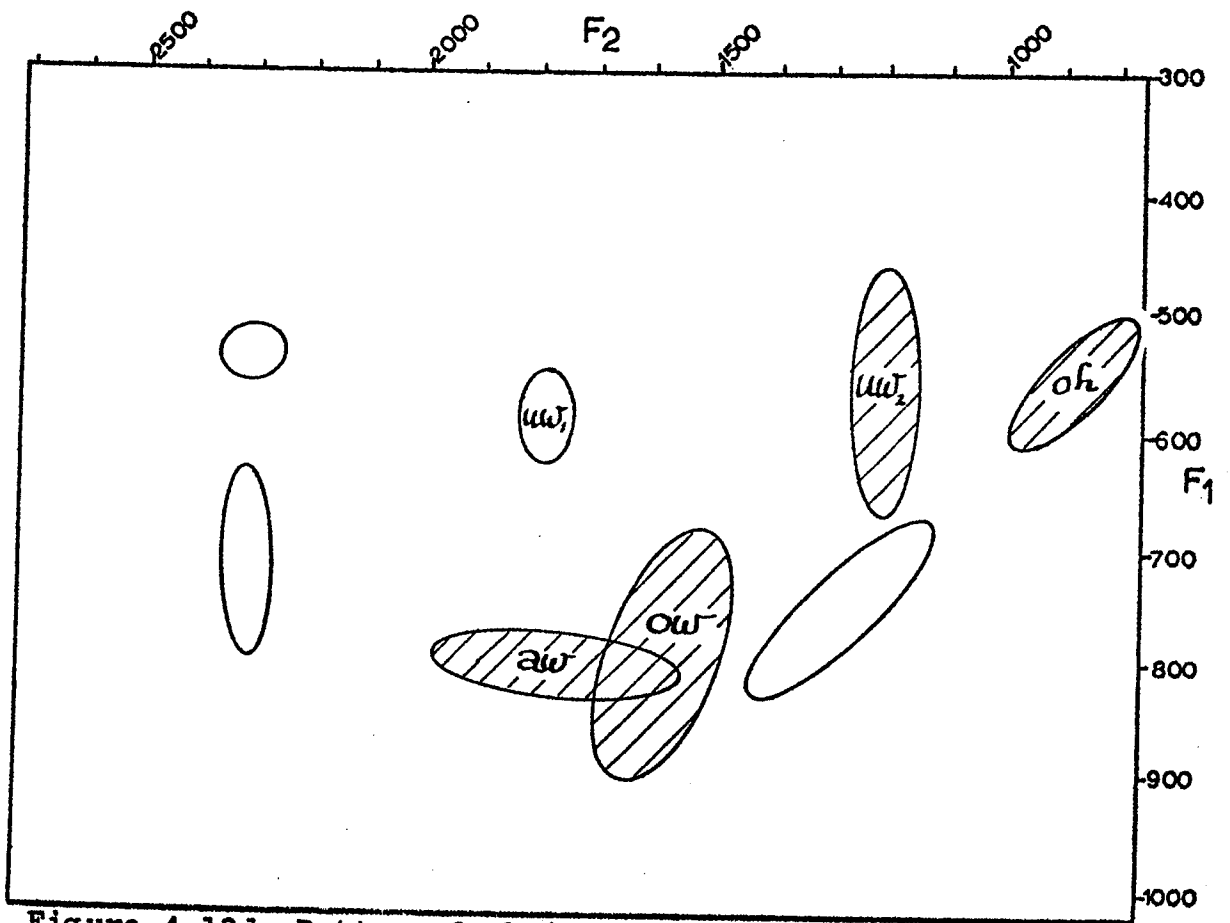


Figure 4-12d. Pattern 3 chain shift in London: Tom Gale.

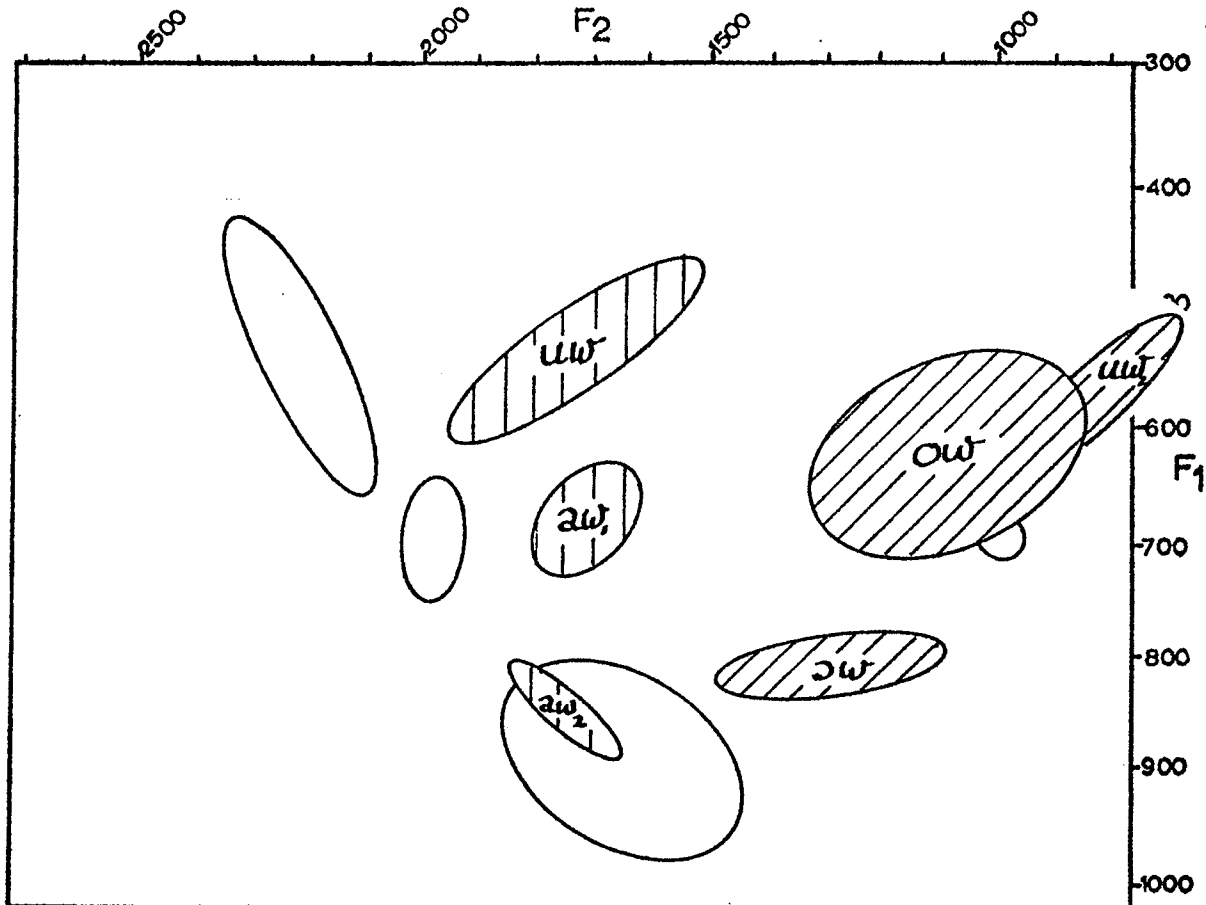


Figure 4-13a. Pattern 3 chain shift in Norwich: James Wicks, 74.

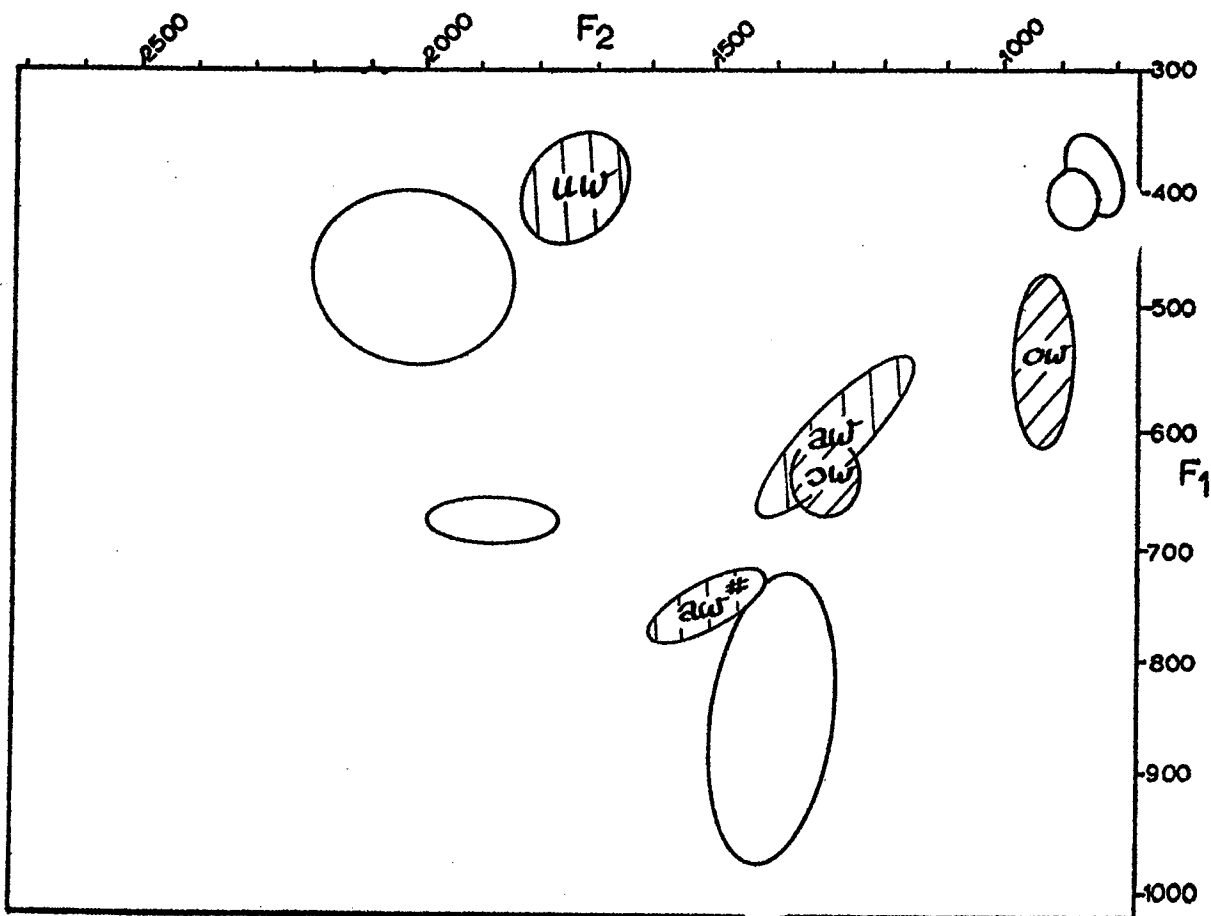


Figure 4-13b. Pattern 3 chain shift in Norwich: Les Branson, 42.

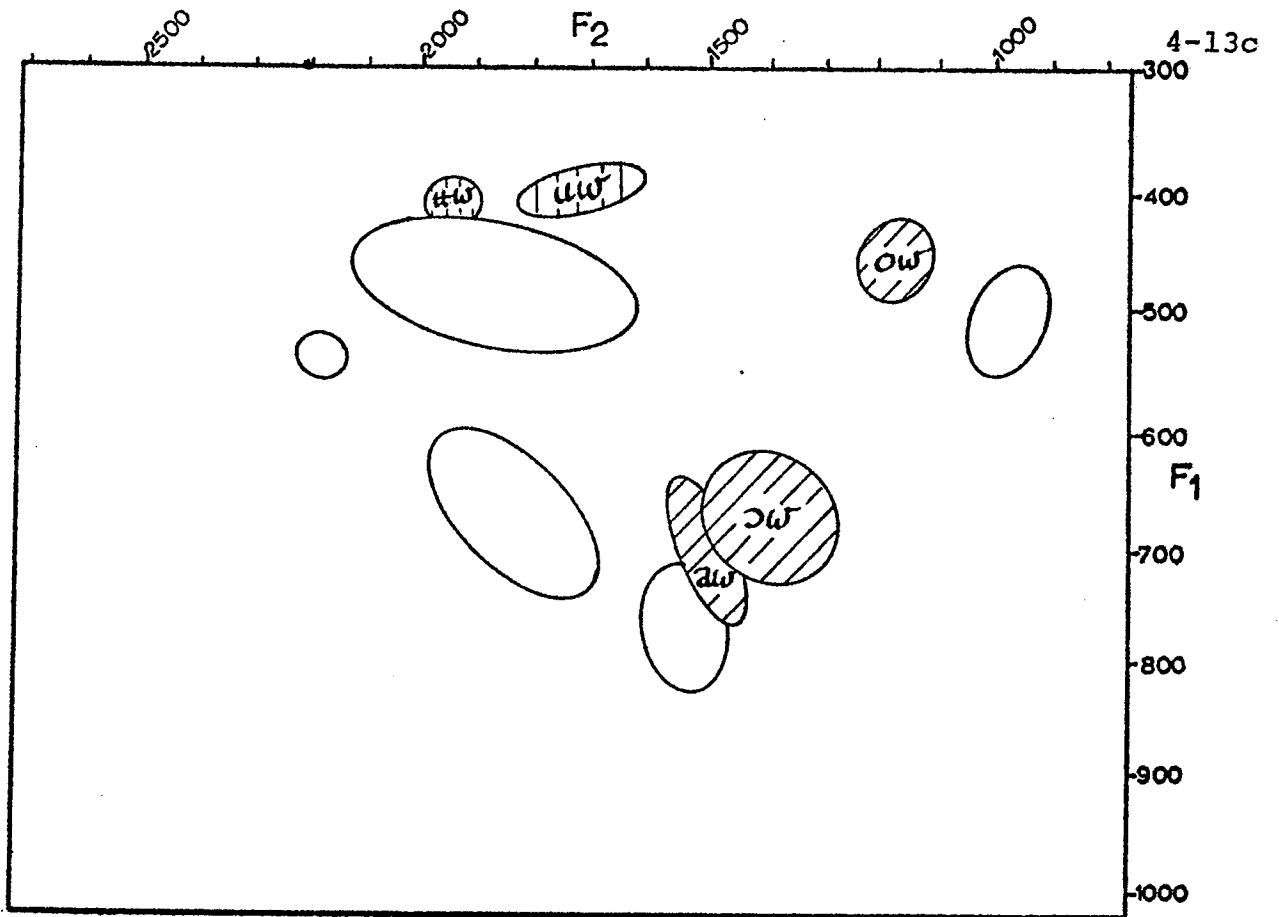


Figure 4-13c. Pattern 3 chain shift in Norwich: Tony Tassie, 16.

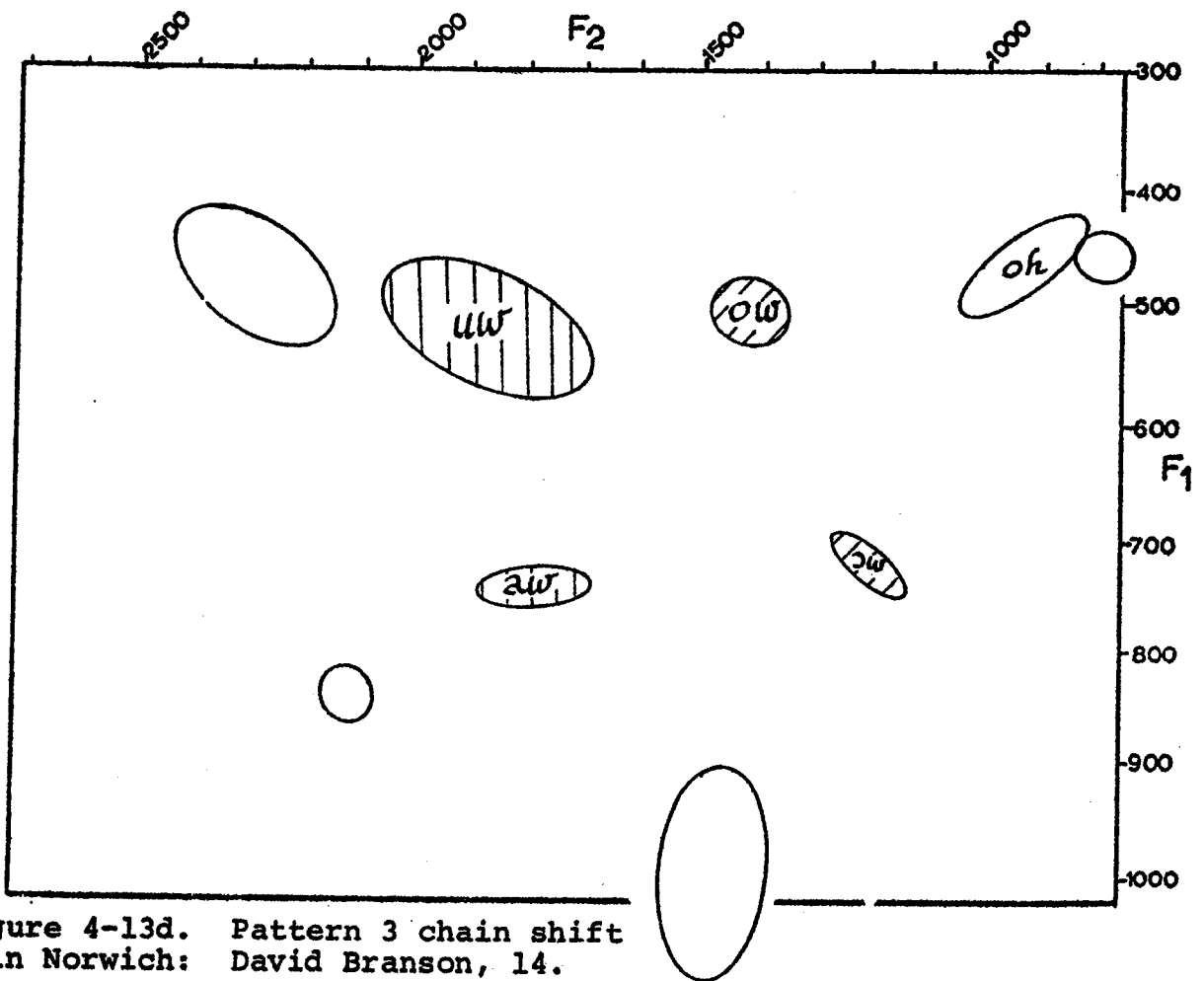


Figure 4-13d. Pattern 3 chain shift in Norwich: David Branson, 14.

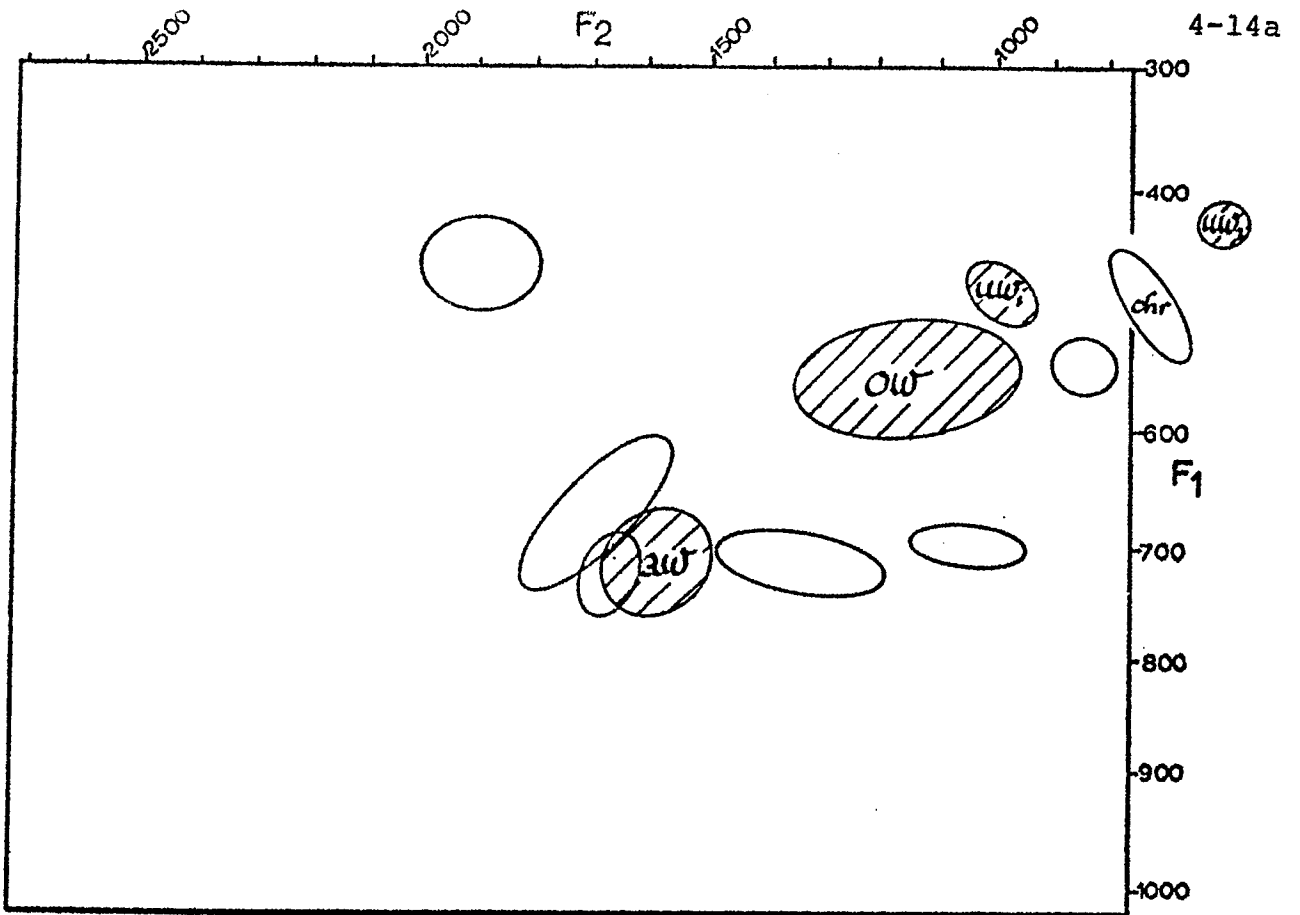


Figure 4-14a. Pattern 3 chain shift in the Outer Banks (Arapahoe): Landers Roberts, 89.

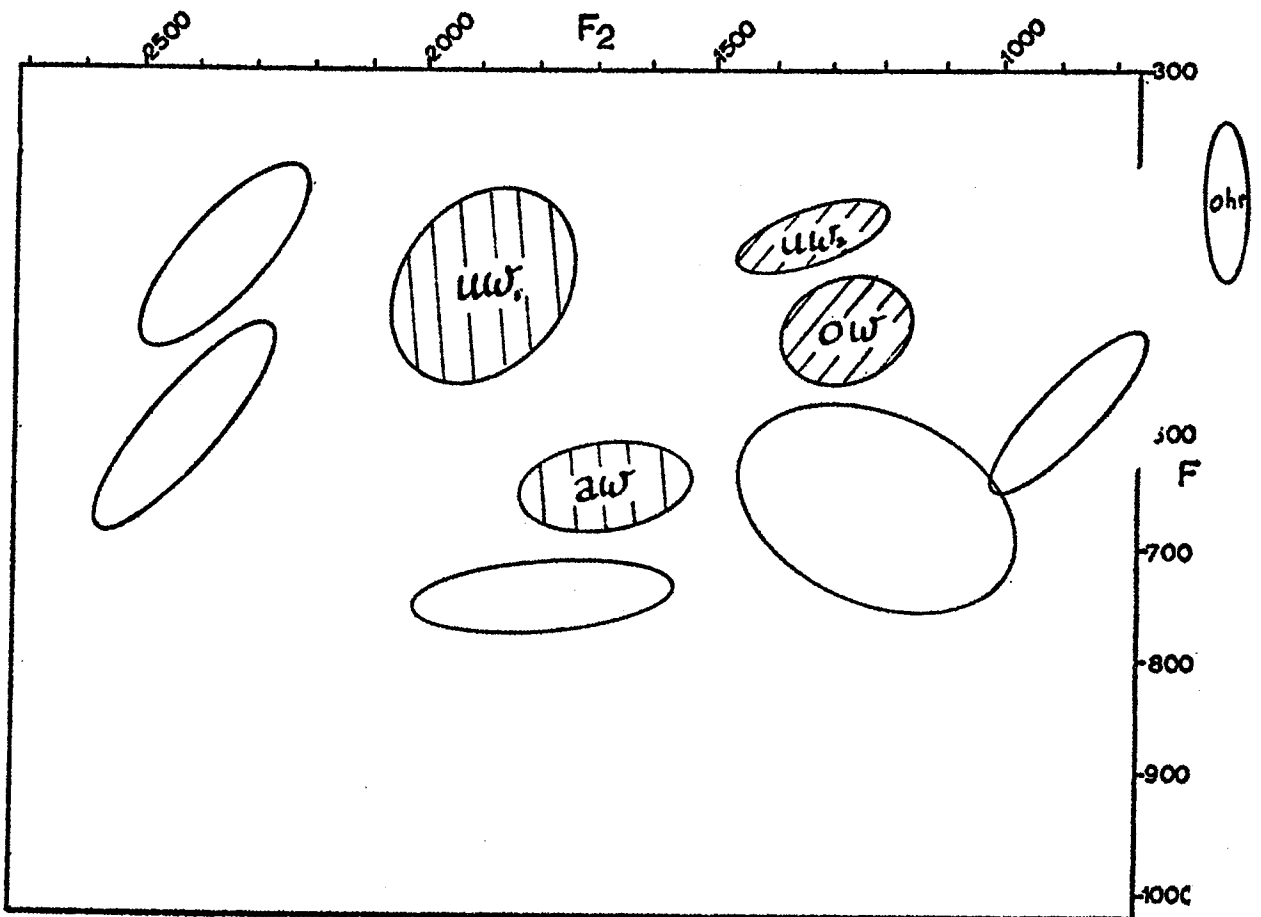


Figure 4-14b. Pattern 3 chain shift in the Outer Banks (Arapahoe): Duval Hardison, 58.

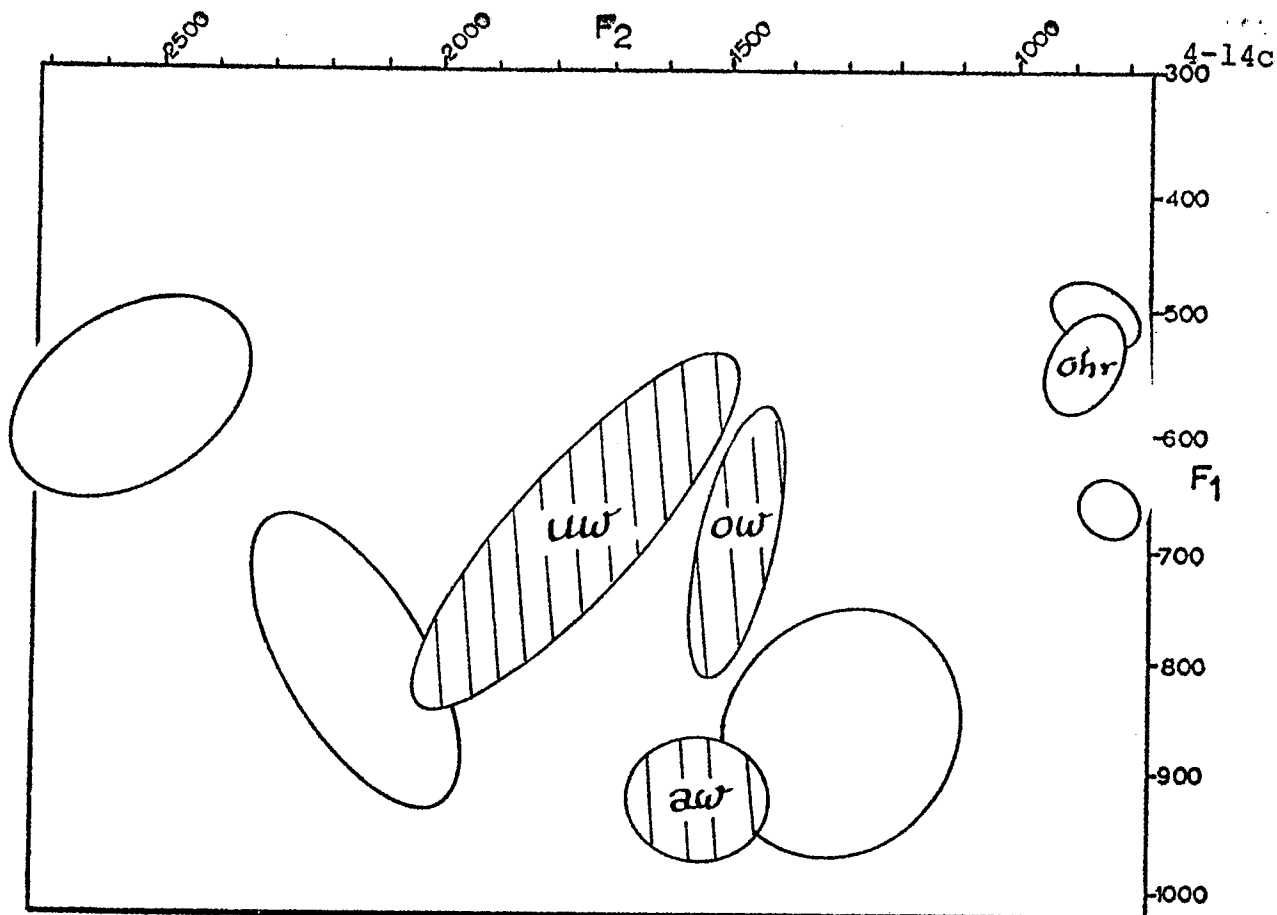


Figure 4-14c. Pattern 3 chain shift in the Outer Banks (Arapahoe):
Nellie Willis, 67.

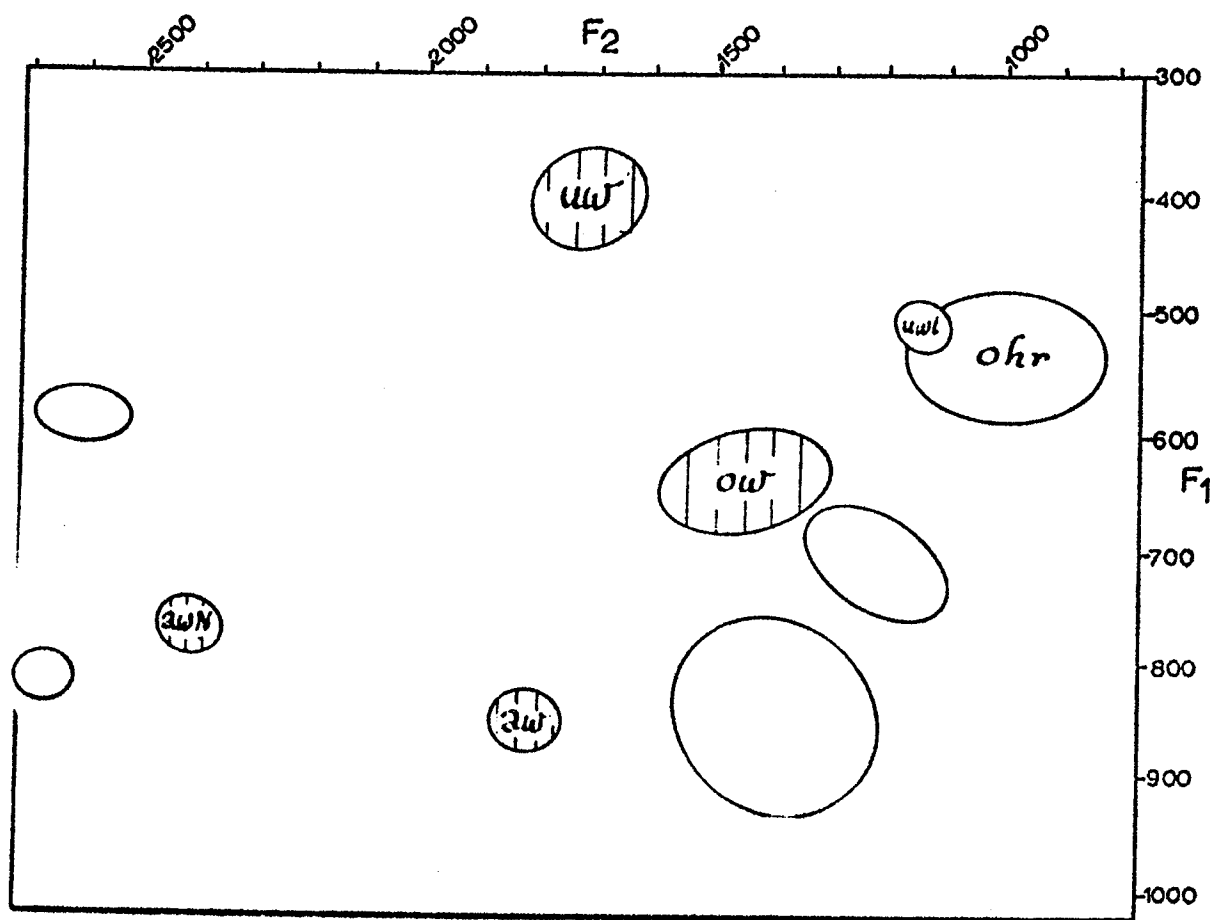


Figure 4-14d. Pattern 3 chain shift in the Outer Banks (Arapahoe):
Caroline Price, 39.

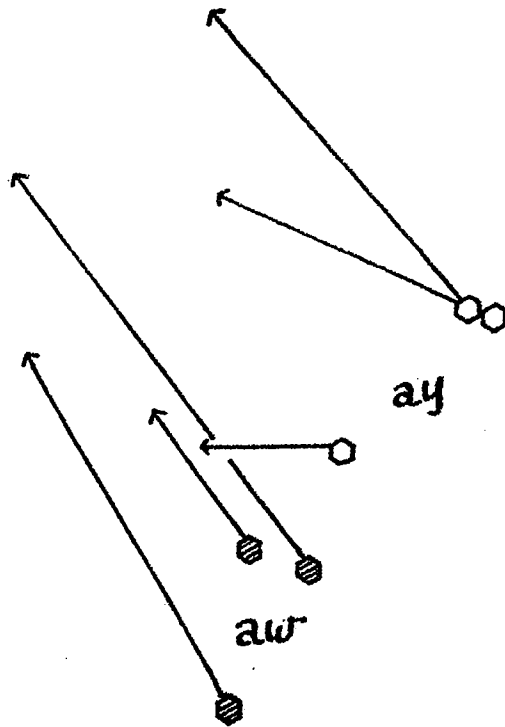
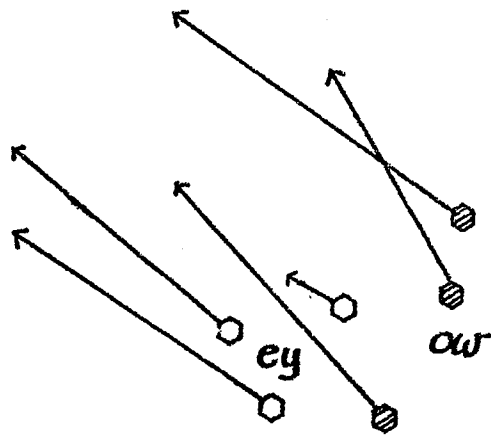
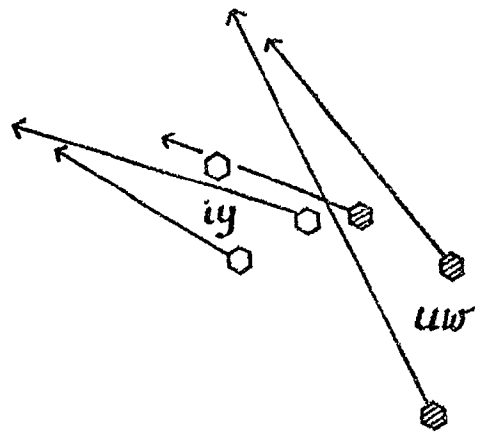


Figure 4-15. Direction of upglides for Nellie Willis.

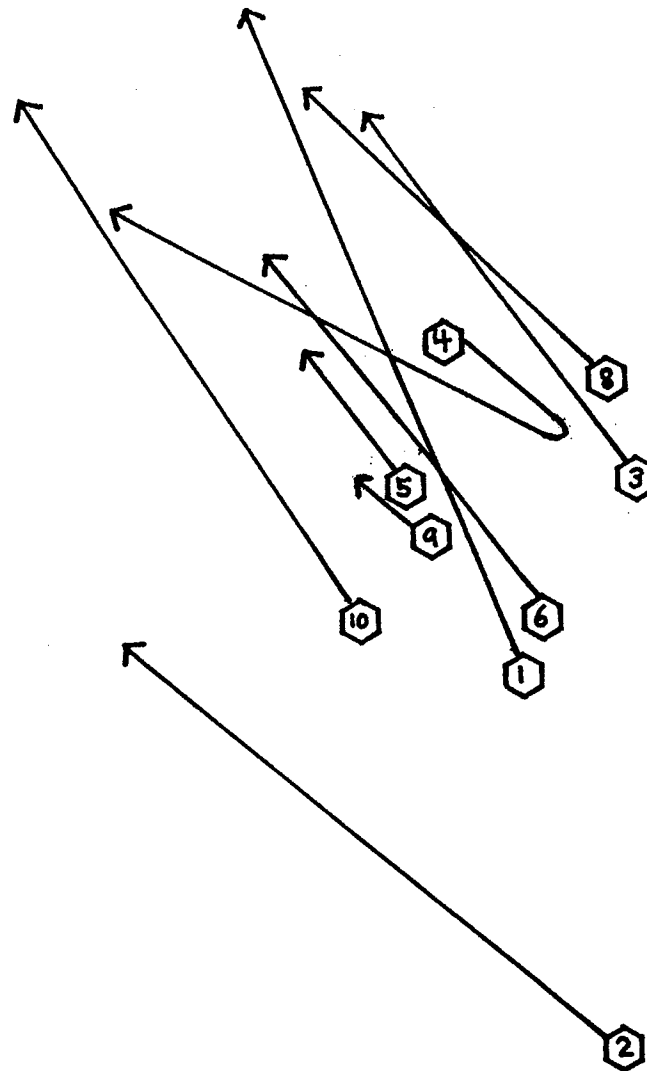


Figure 4-16. The direction of upglides in the North Carolina Glide Test.

1 true	6 book
2 house	8 me
3 know	9 road
4 two	10 know
5 know	

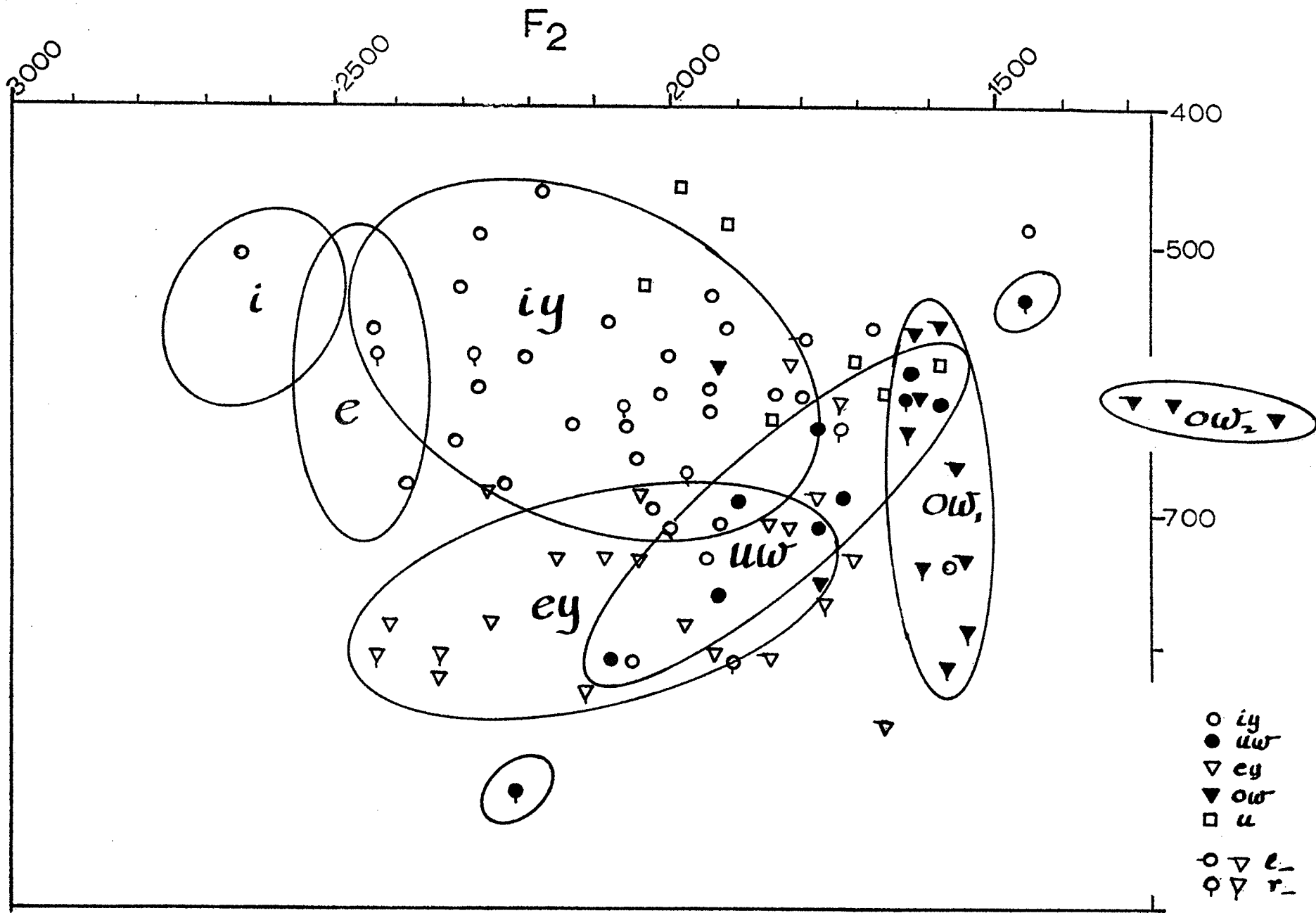


Figure 4-17. High and mid upgliding vowels of Nellie Willis.

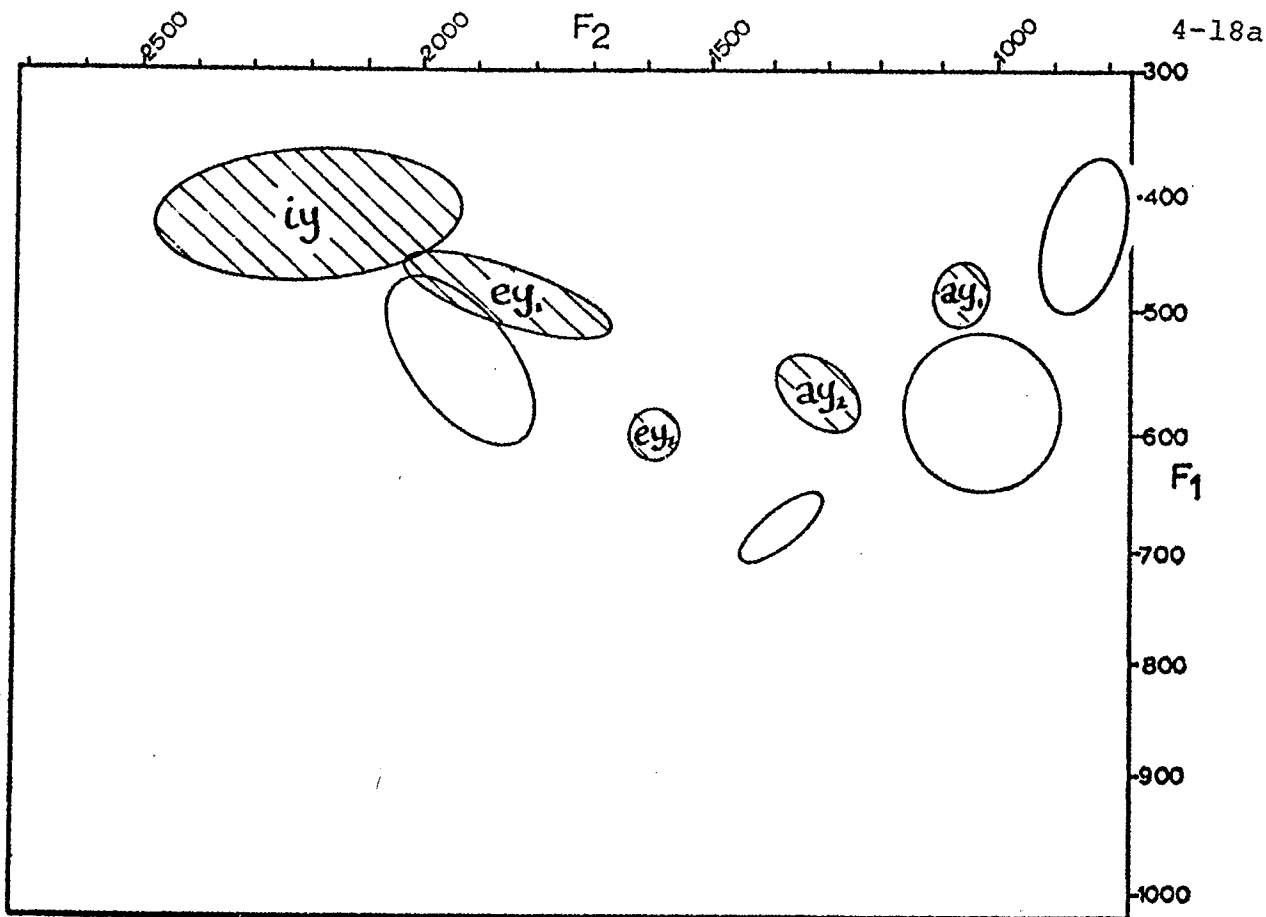


Figure 4-18a. Pattern 4 chain shift in London: Tom Stokes, 83.

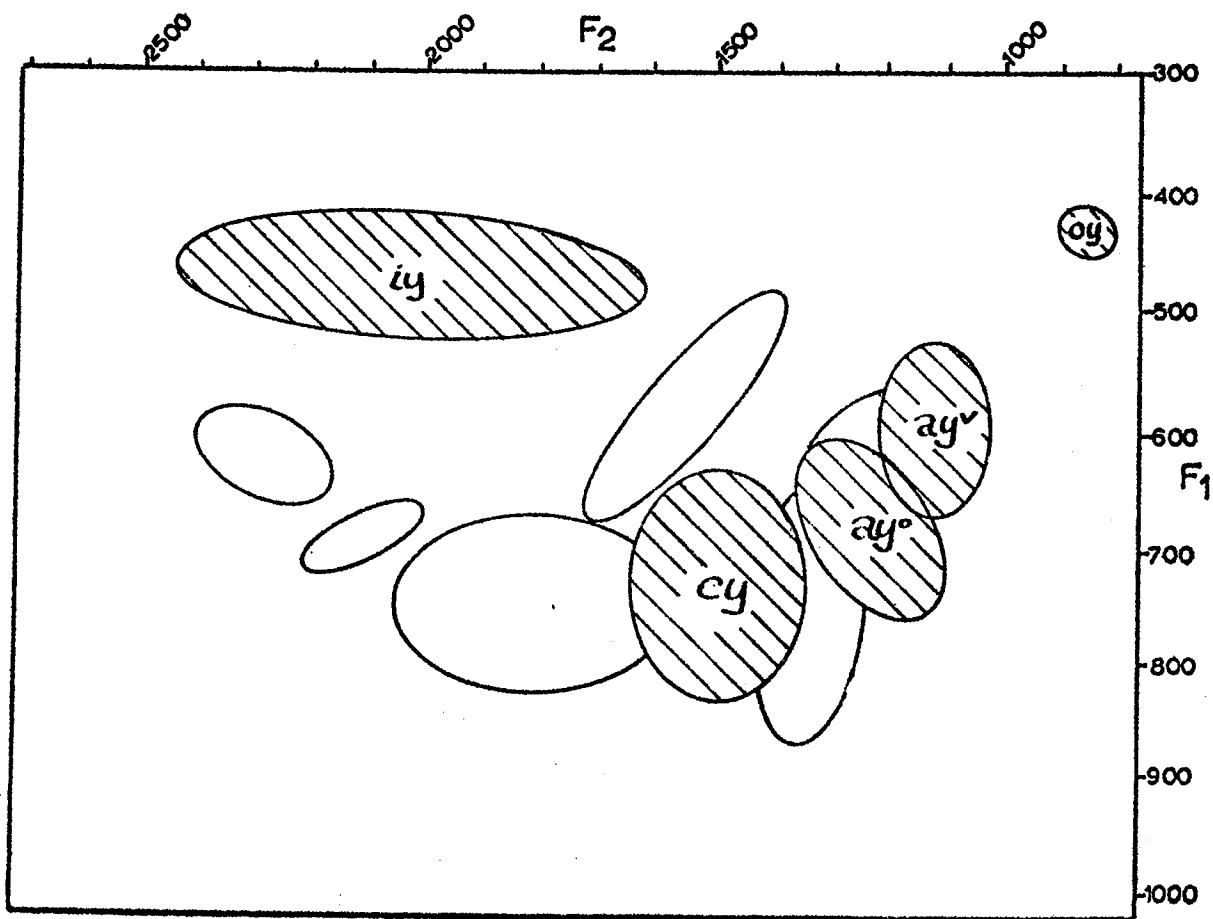


Figure 4-18b. Pattern 4 chain shift in London: Bob Frost, 31.

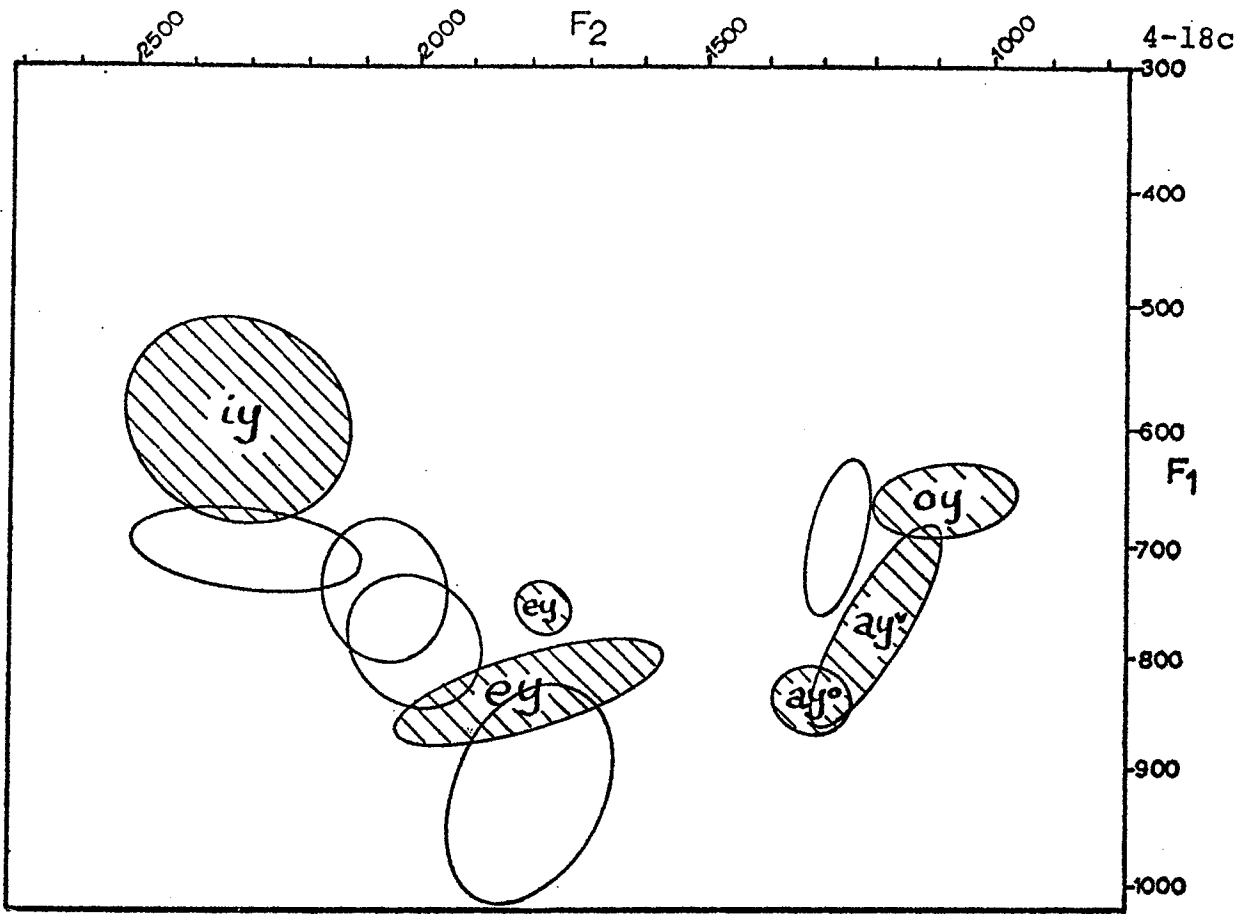


Figure 4-18c. Pattern 4 chain shift in London: Marie Colville, 39.

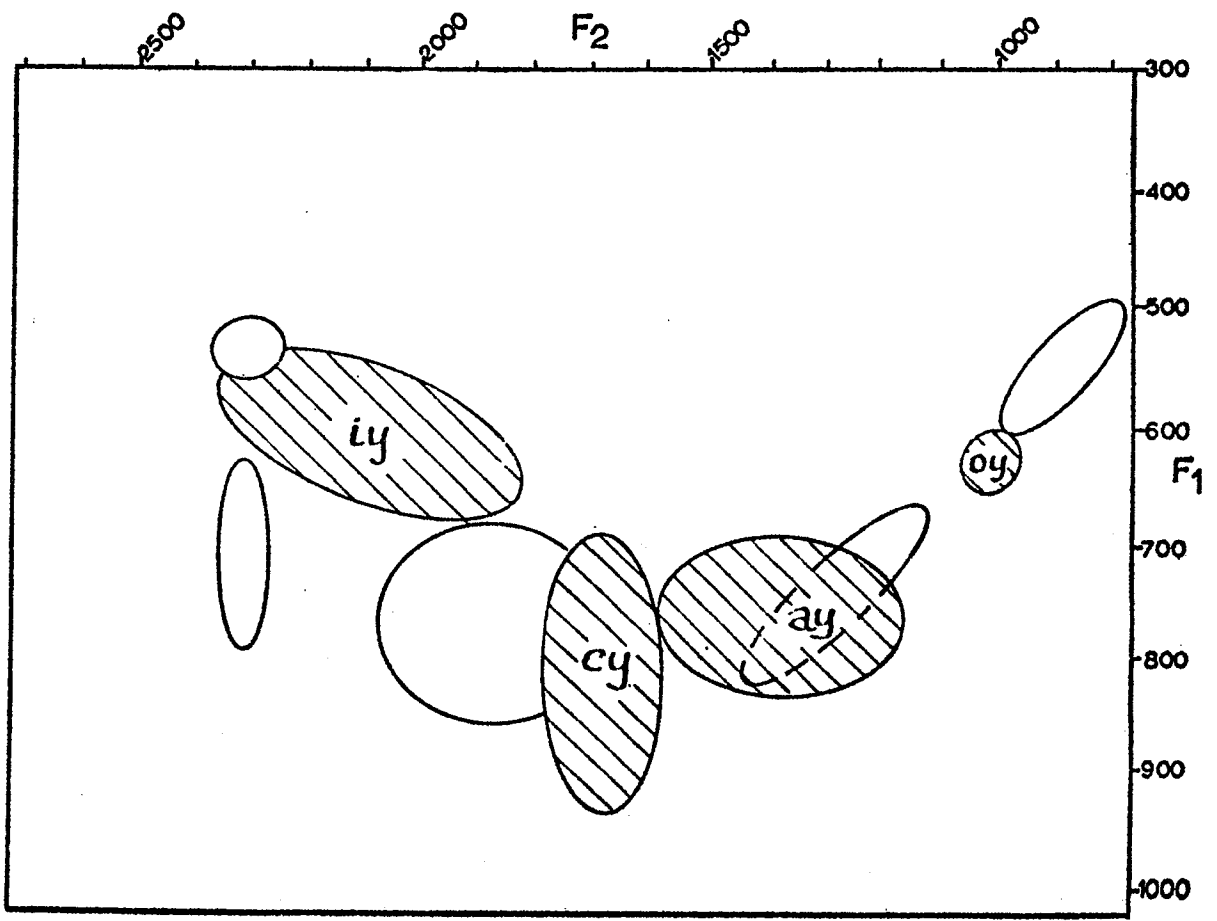


Figure 4-18d. Pattern 4 chain shift in London: Tom Gale.

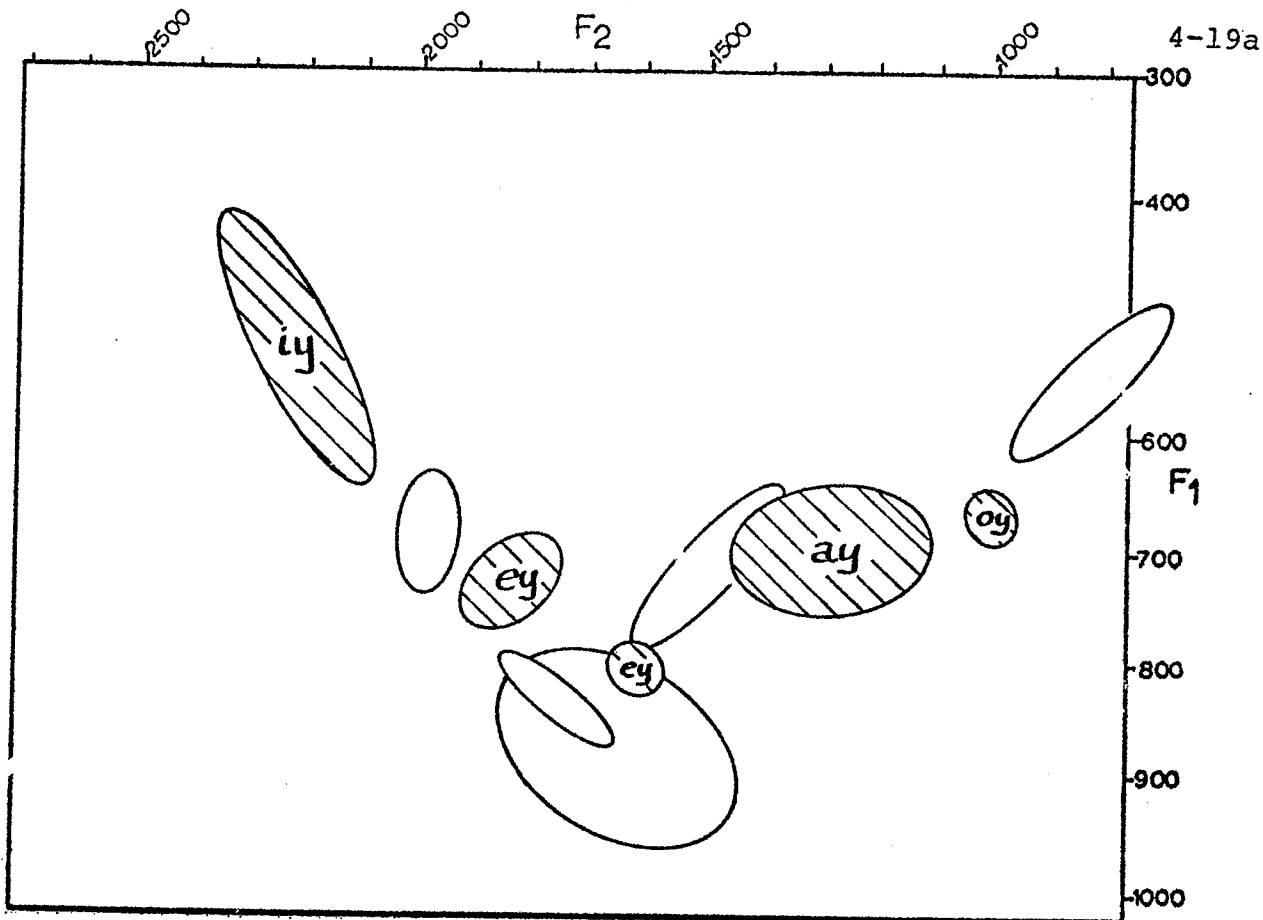


Figure 4-19a. Pattern 4 chain shift in Norwich: James Wicks, 74.

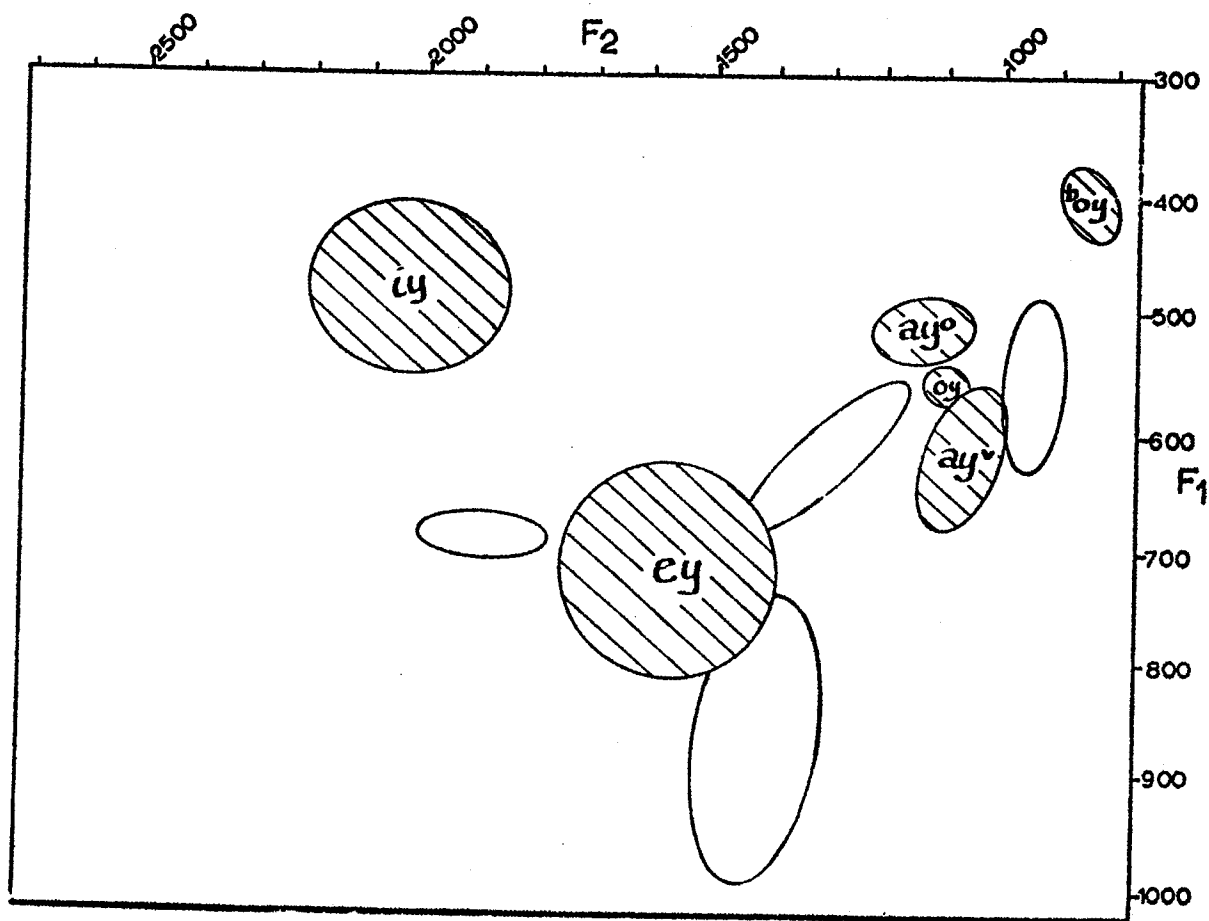


Figure 4-19b. Pattern 4 chain shift in Norwich: Les Branson, 42.

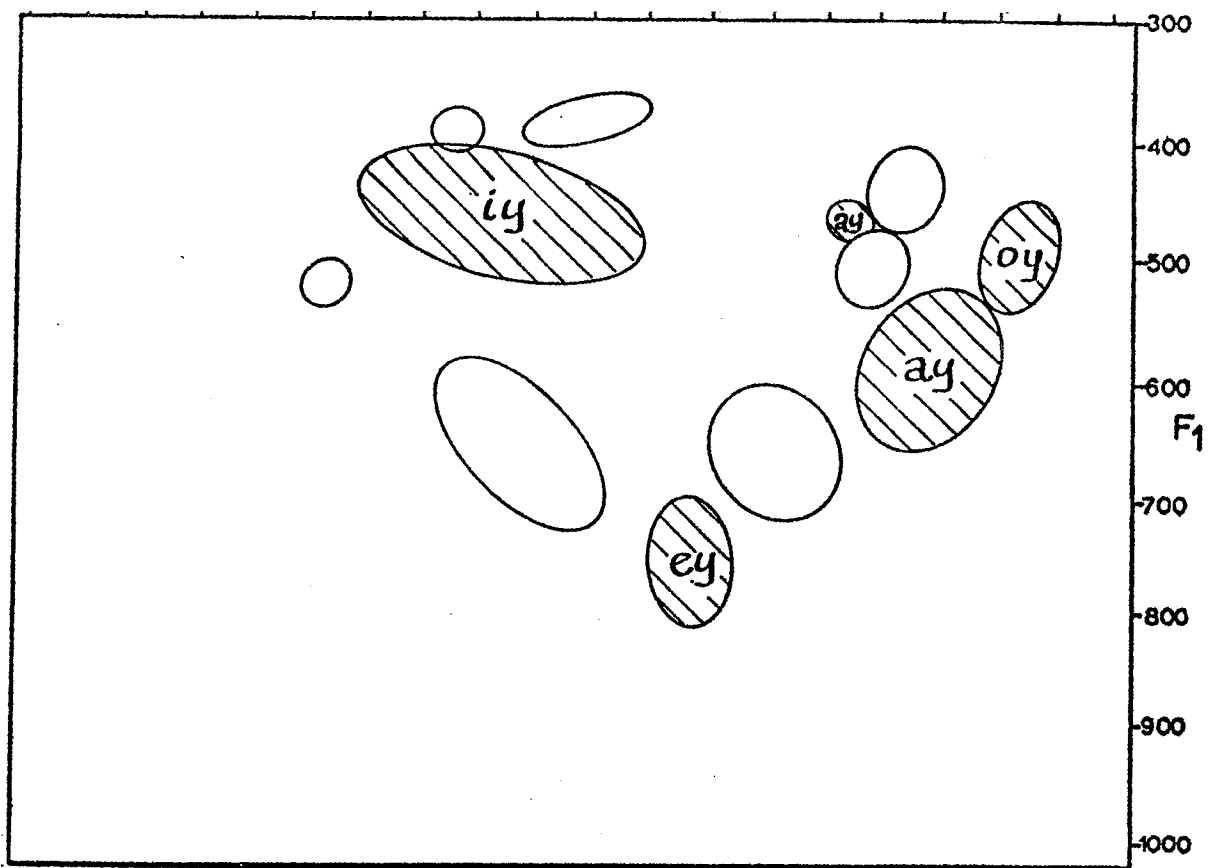


Figure 4-19c. Pattern 4 chain shift in Norwich: Tony Tassie, 16.

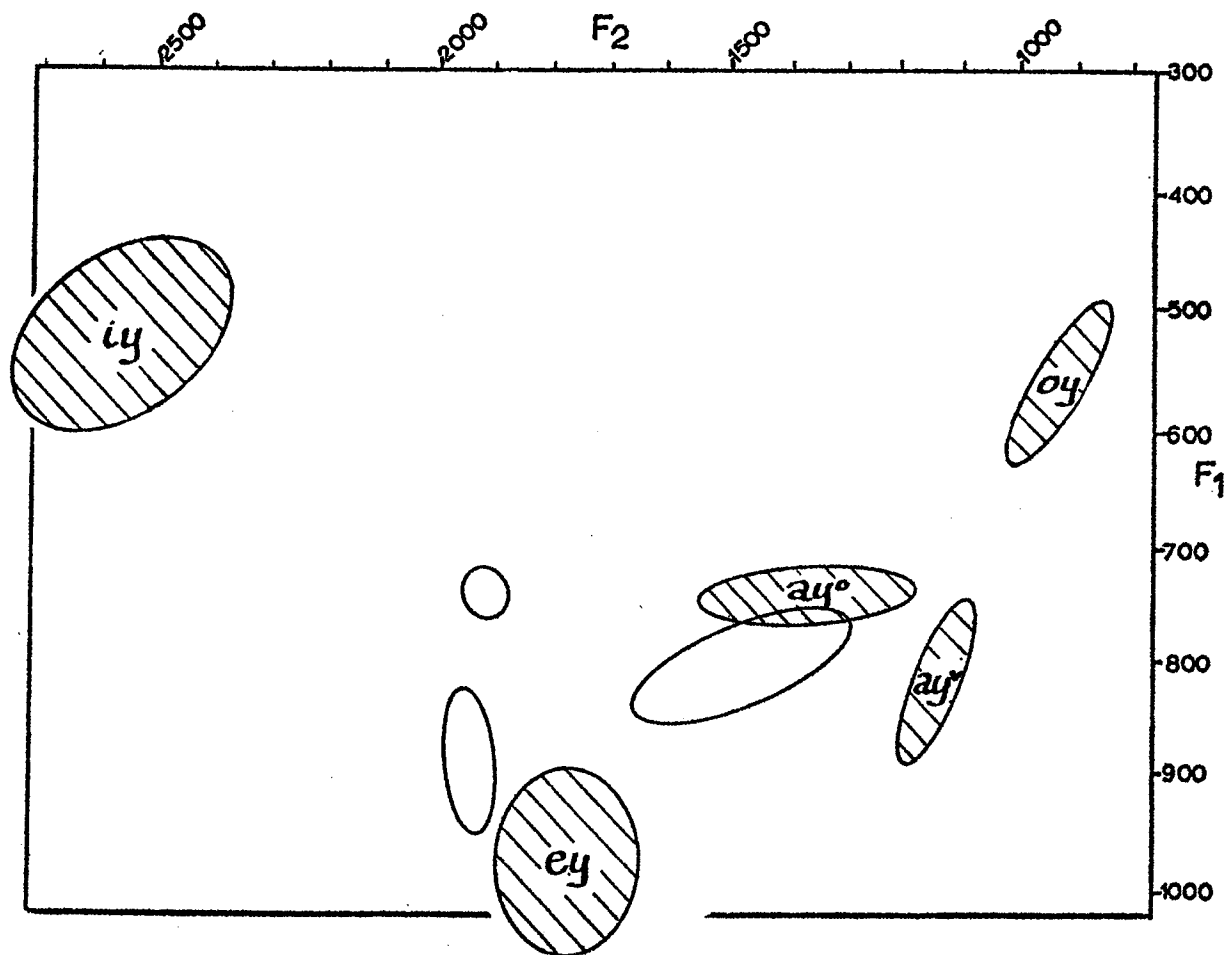


Figure 4-19d. Pattern 4 chain shift in Norwich: Jean Suffling, 15.
4-19d

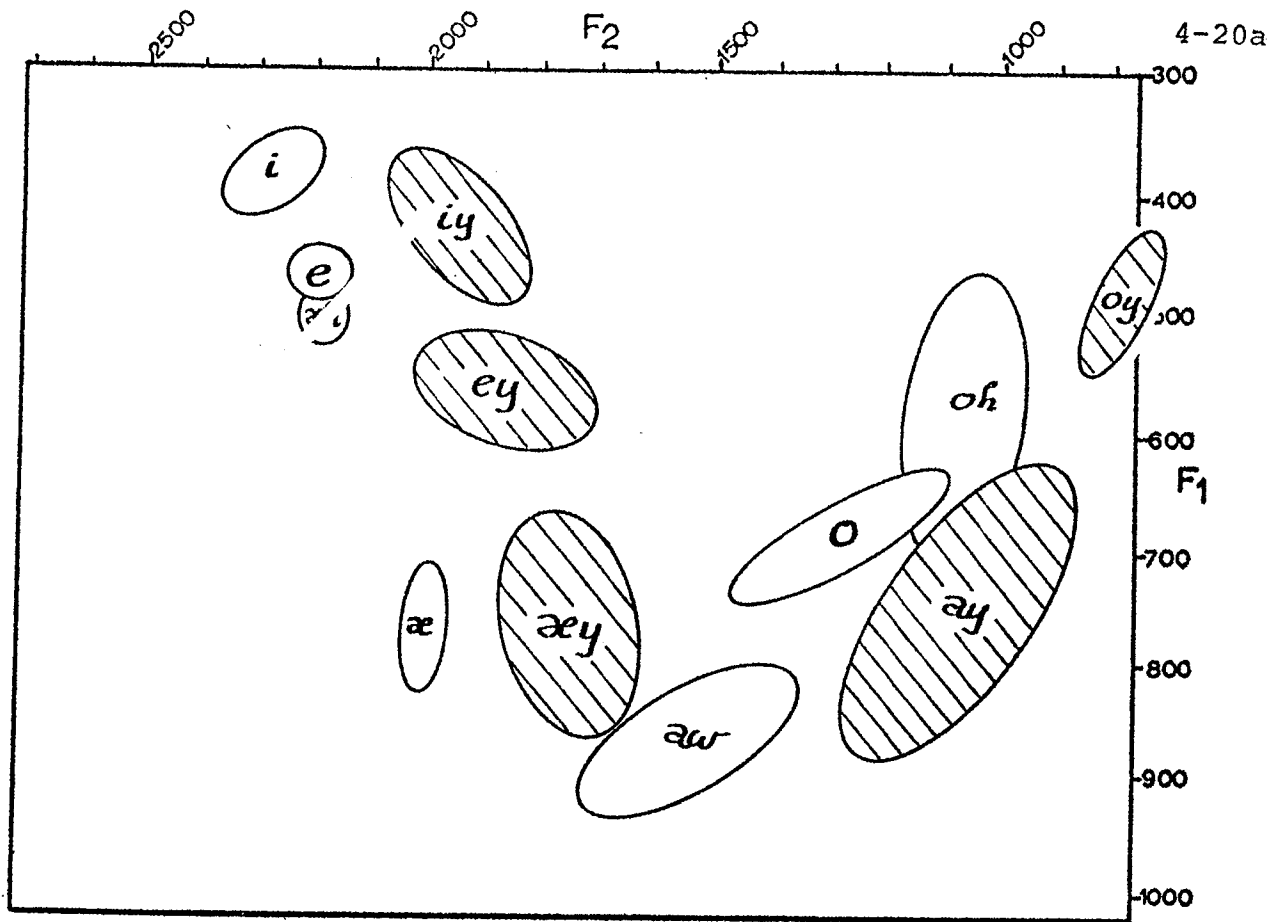


Figure 4-20a. Front upgliding vowels of Monnie O'Neill, 31, Wanchese, North Carolina.

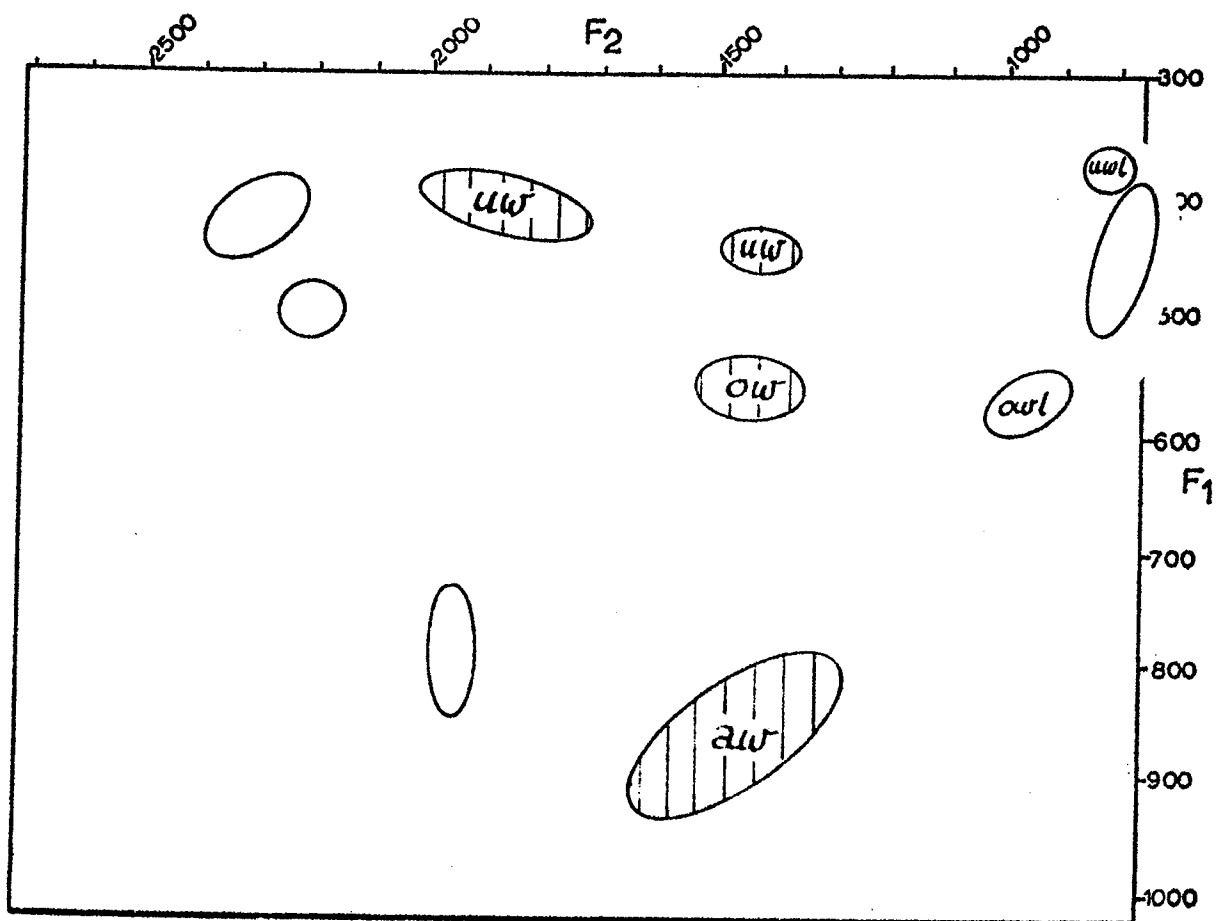


Figure 4-20b. Back upgliding vowels of Monnie O'Neill.

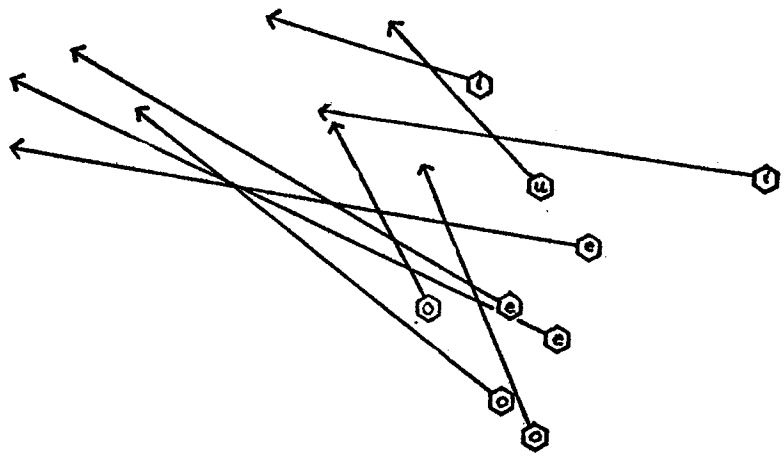


Figure 4-21. Direction of glides for Nora Herbert.

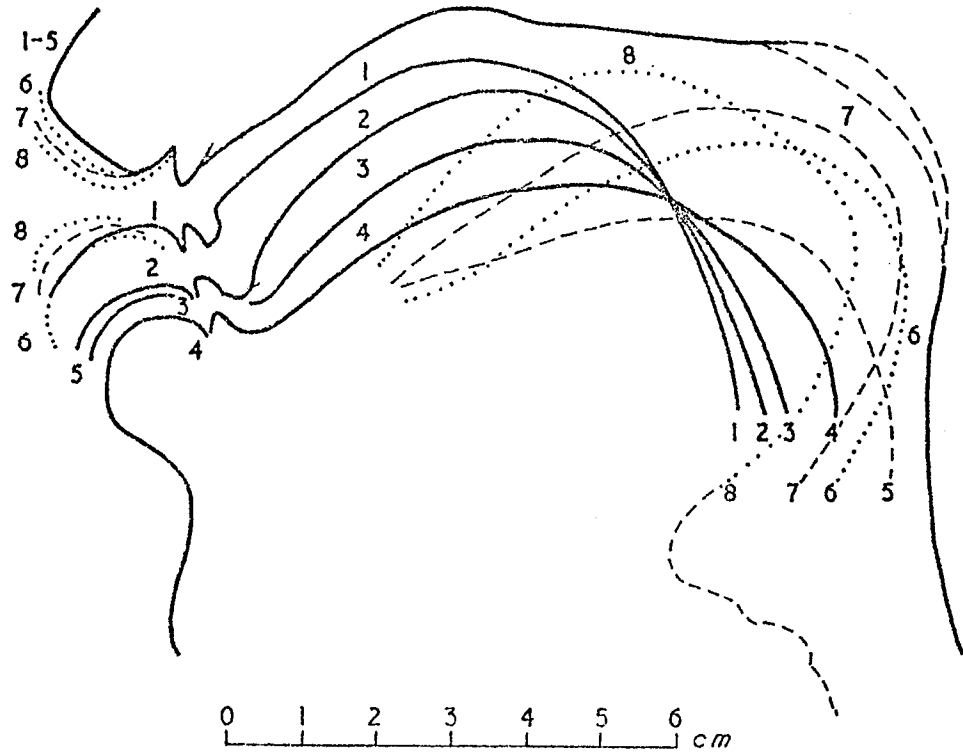
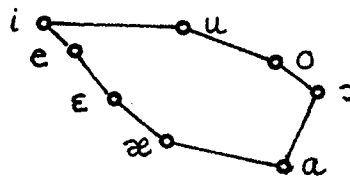


Figure 4-22. Tongue positions for eight near-cardinal vowels of Ngwe [Ladefoged 1967].



Highest position of the tongue for eight vowels.

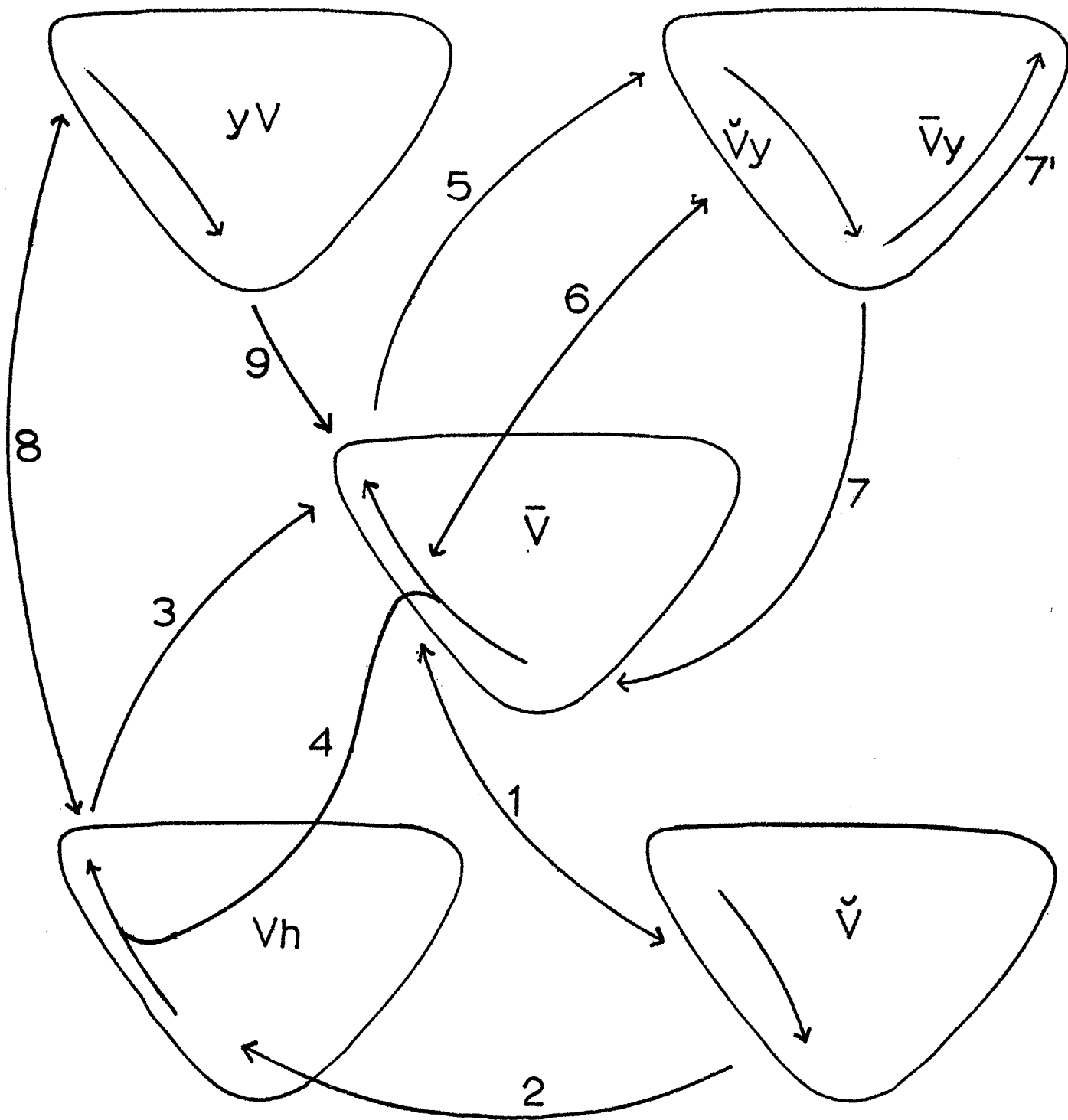


Figure 5-1. Routes for chain shifting across sub-systems for front vowels.

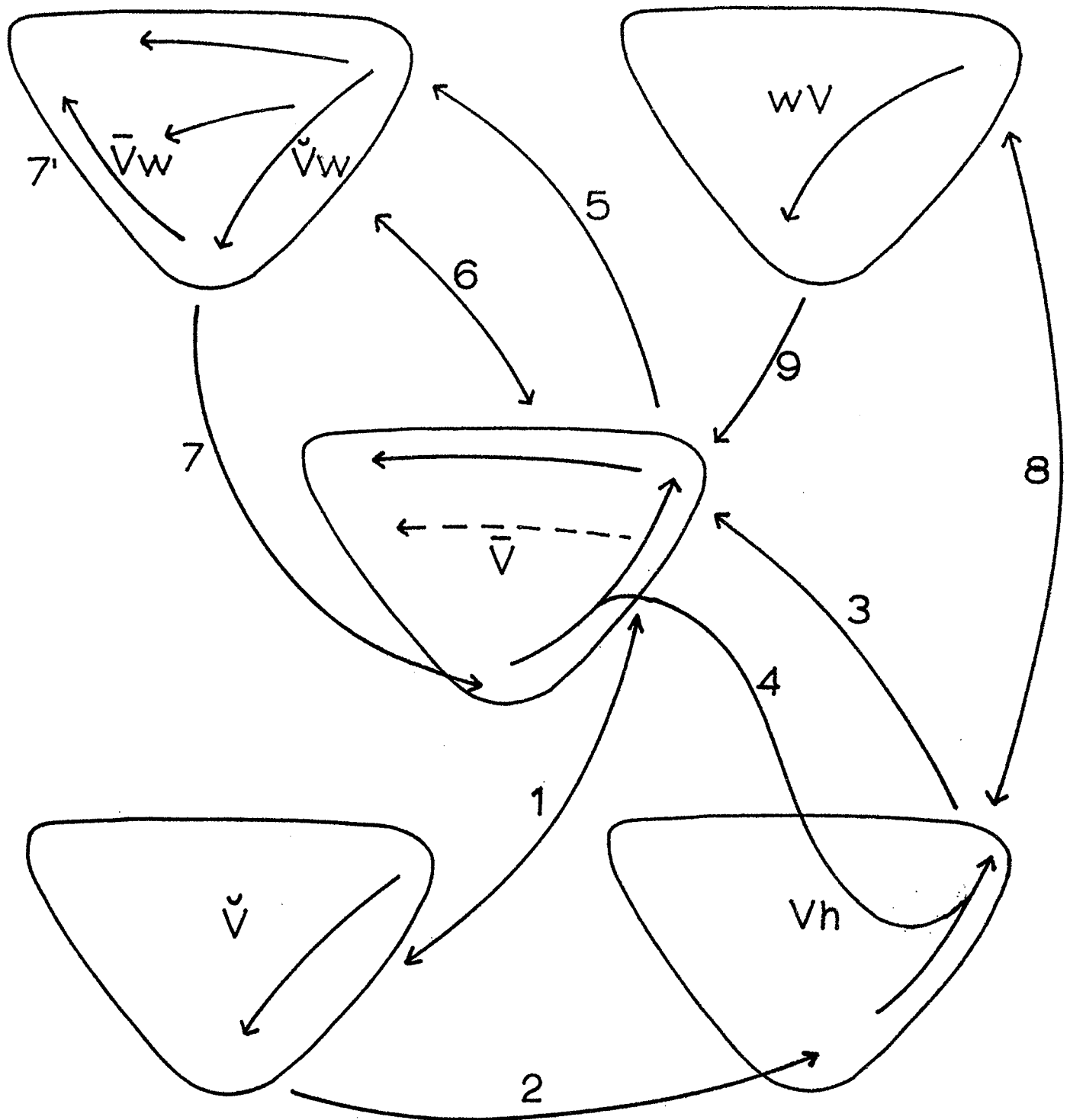


Figure 5-2. Routes for chain shifting across sub-systems for back vowels.

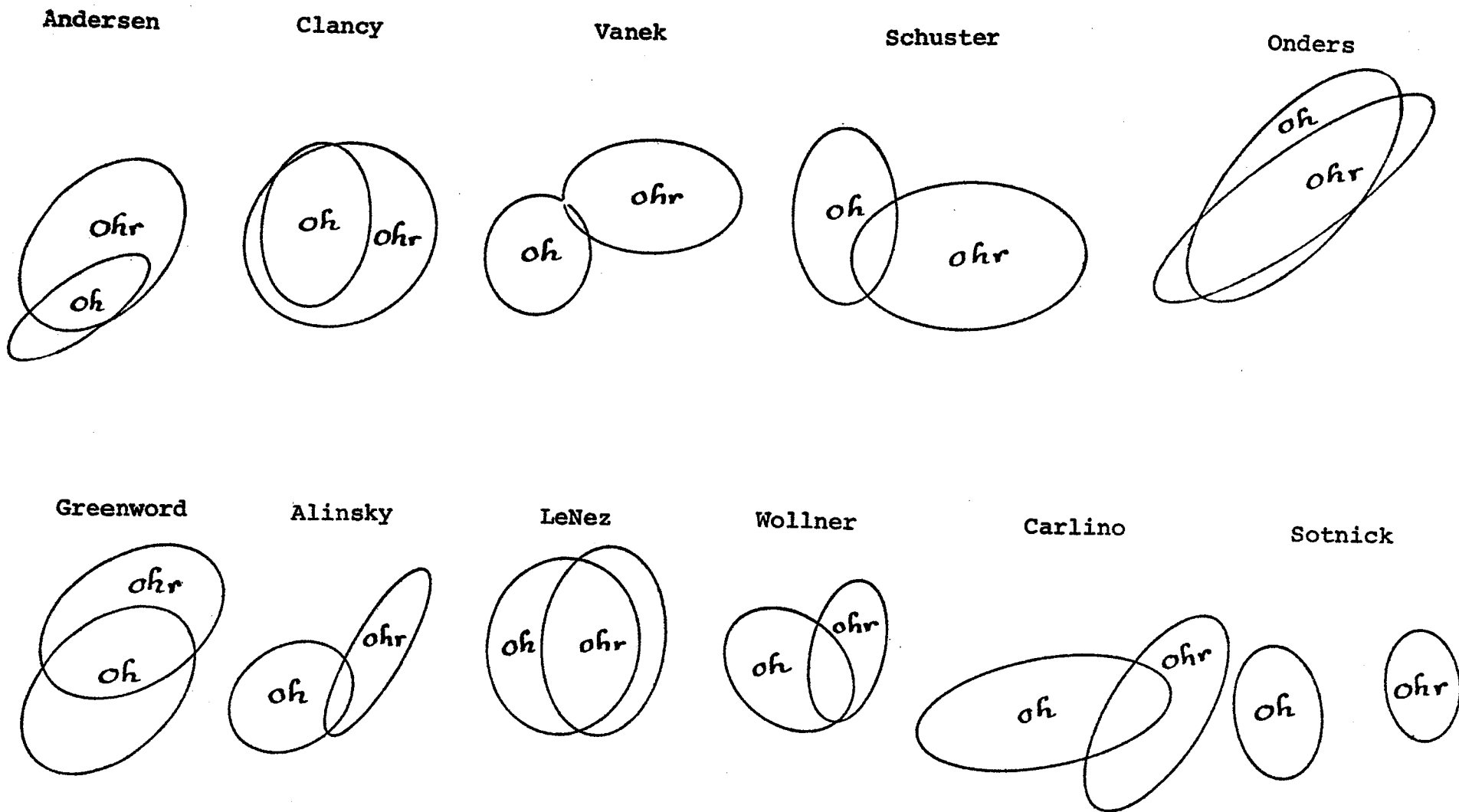


Figure 6-1a. Relations of /oh/ and /ohr/ for eleven male speakers in New York City.

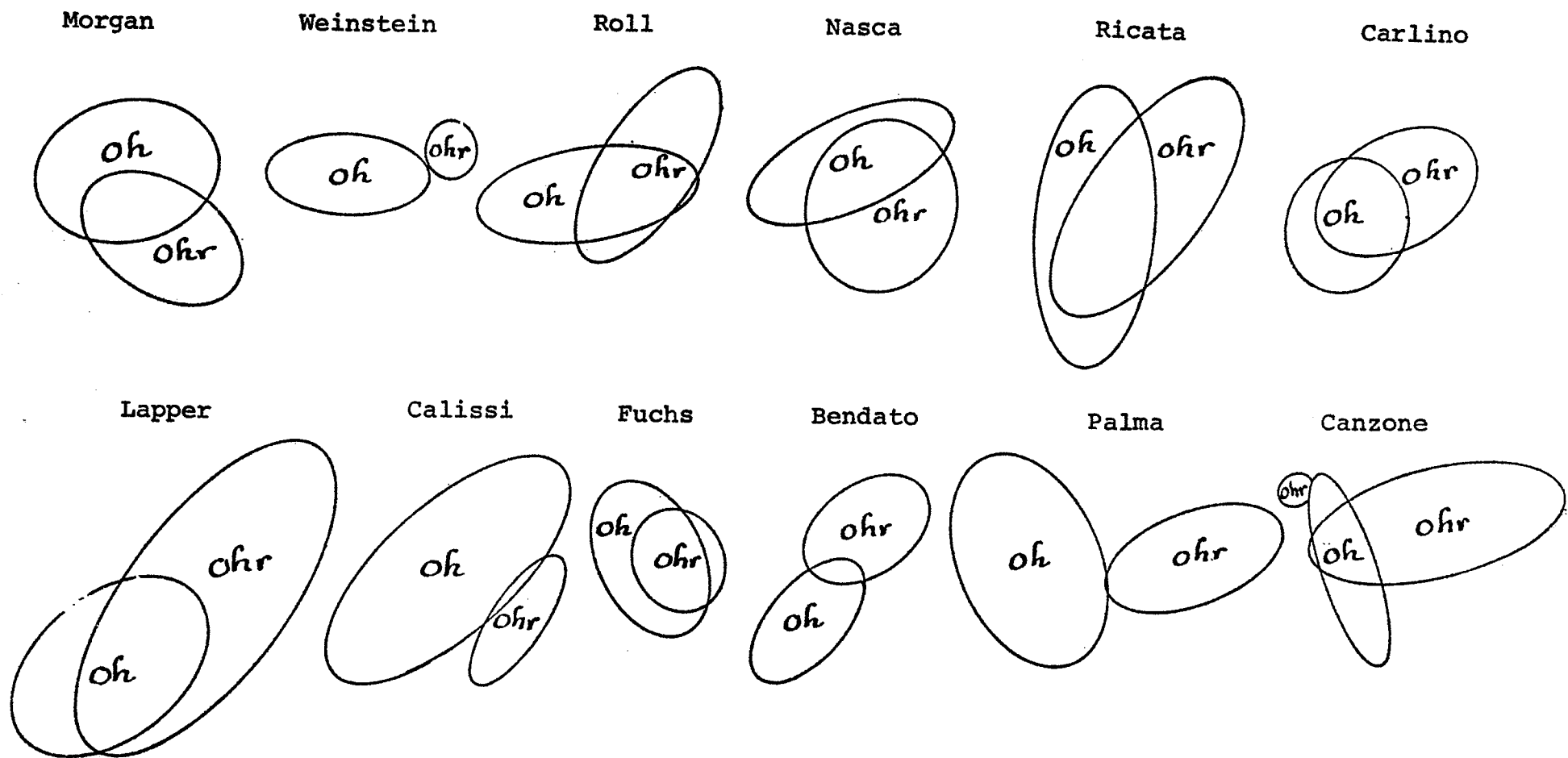


Figure 6-1b. Relations of /oh/ and /ohr/ for twelve female speakers in New York City.

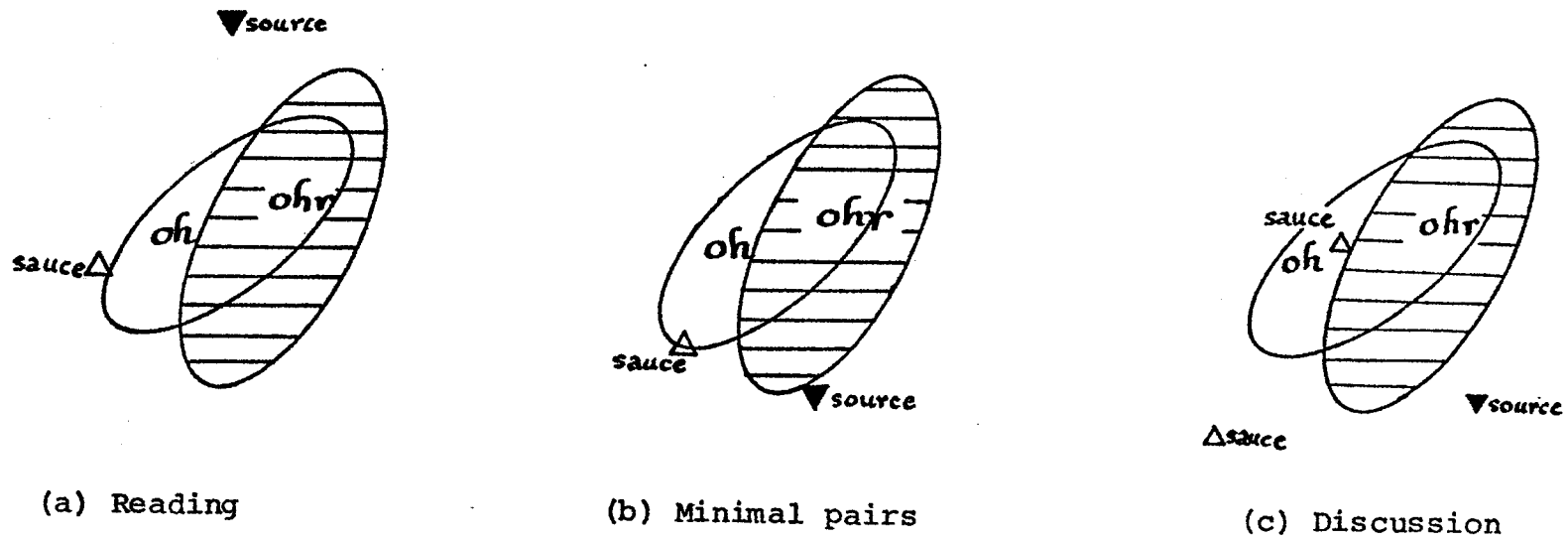


Figure 6-2. Relation of source and sauce for Hazel Lapper.

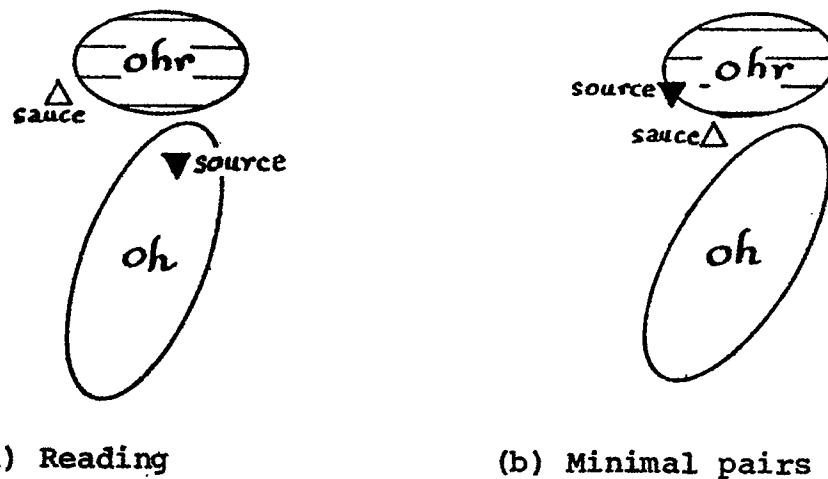


Figure 6-3. Relation of source and sauce for Lucy Ricata.

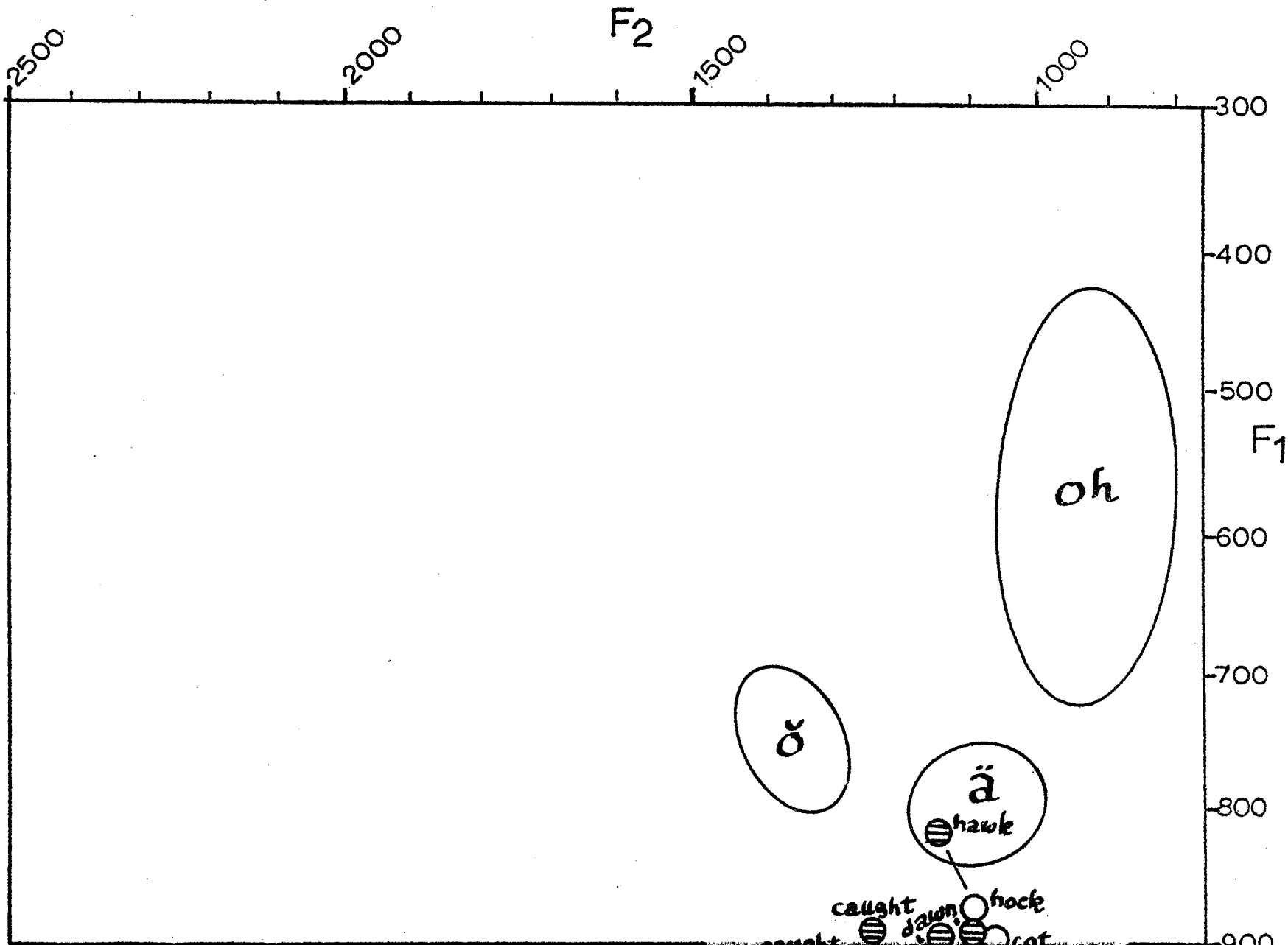


Figure 6-4. Relation of connected speech to minimal pairs for contrast of short o and long open o words for Bill Peters, 80, of Duncannon, Pennsylvania.

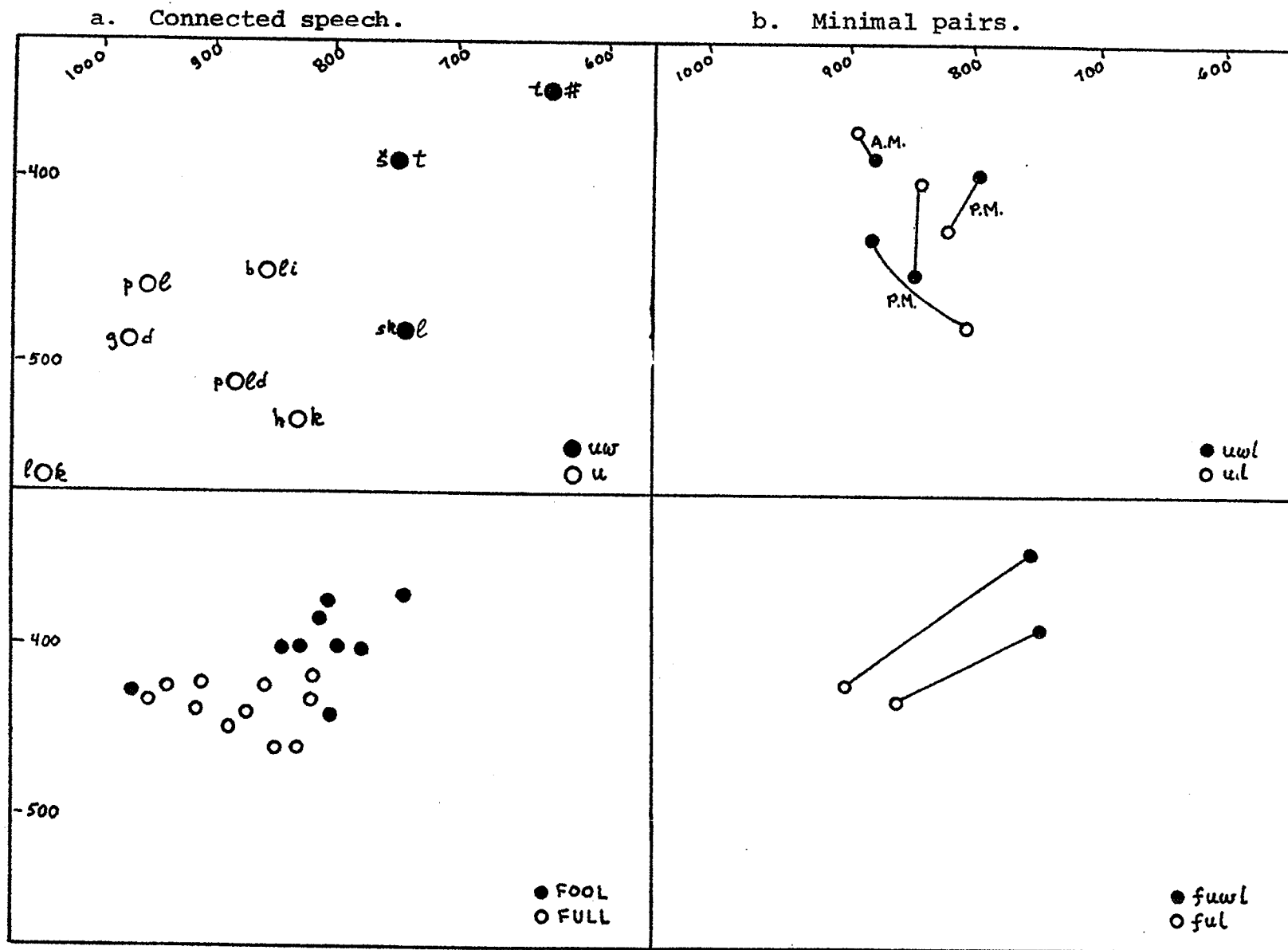


Figure 6-5. Relation of /ul/ and /uwl/ for Dan Jones, 14, of Albuquerque.

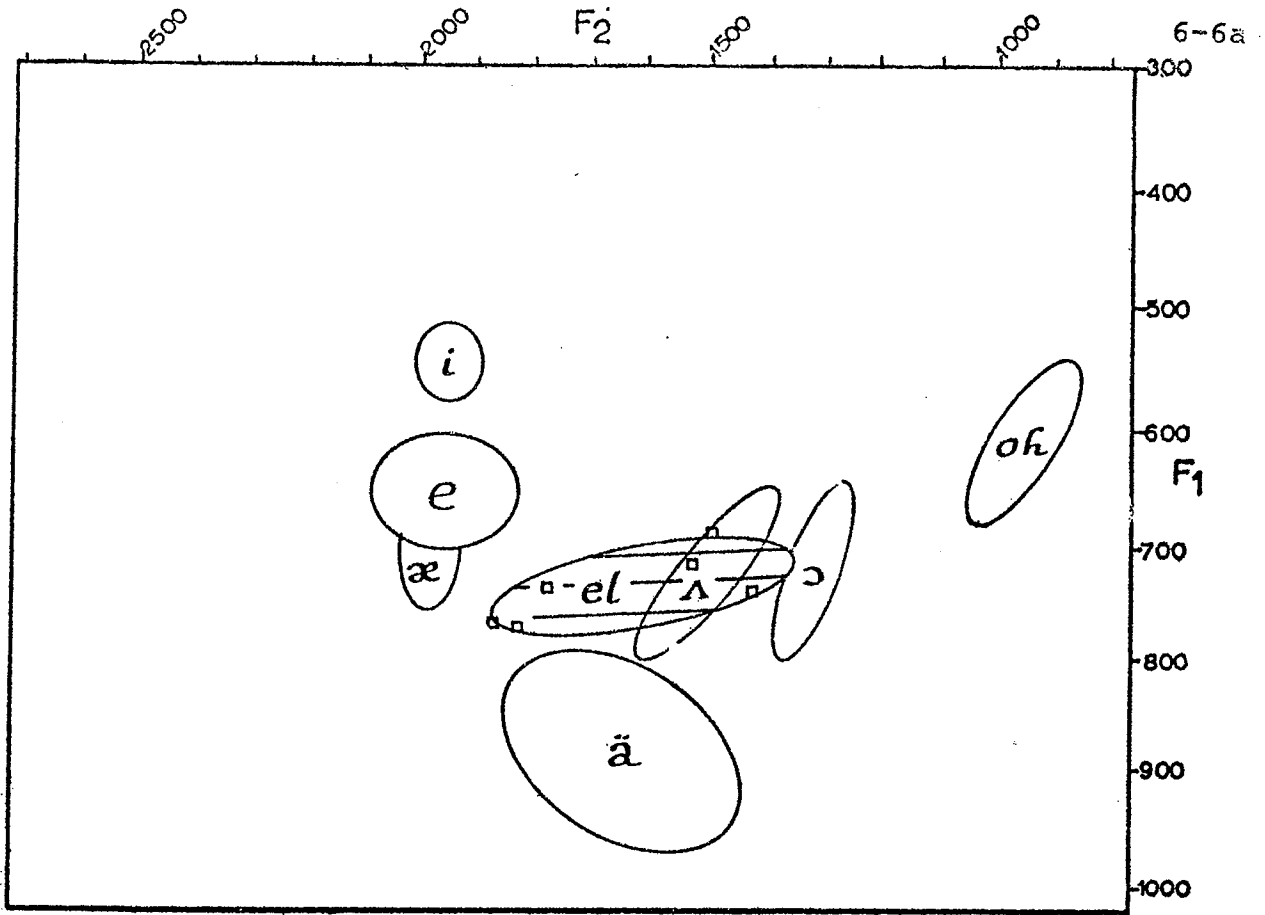


Figure 6-6a. Backing of el in Norwich: James Wicks, 74.

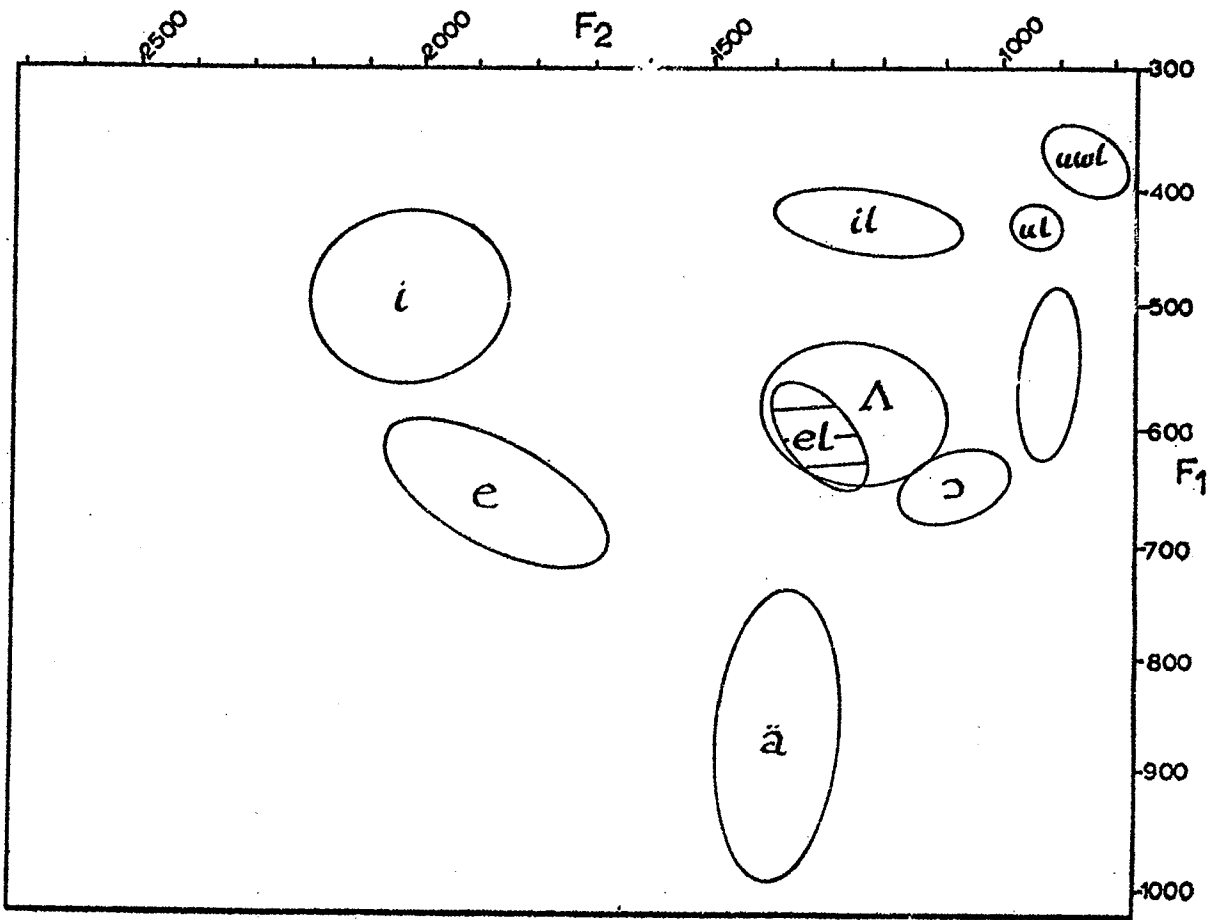


Figure 6-6b. Backing of el in Norwich: Les Branson, 42.

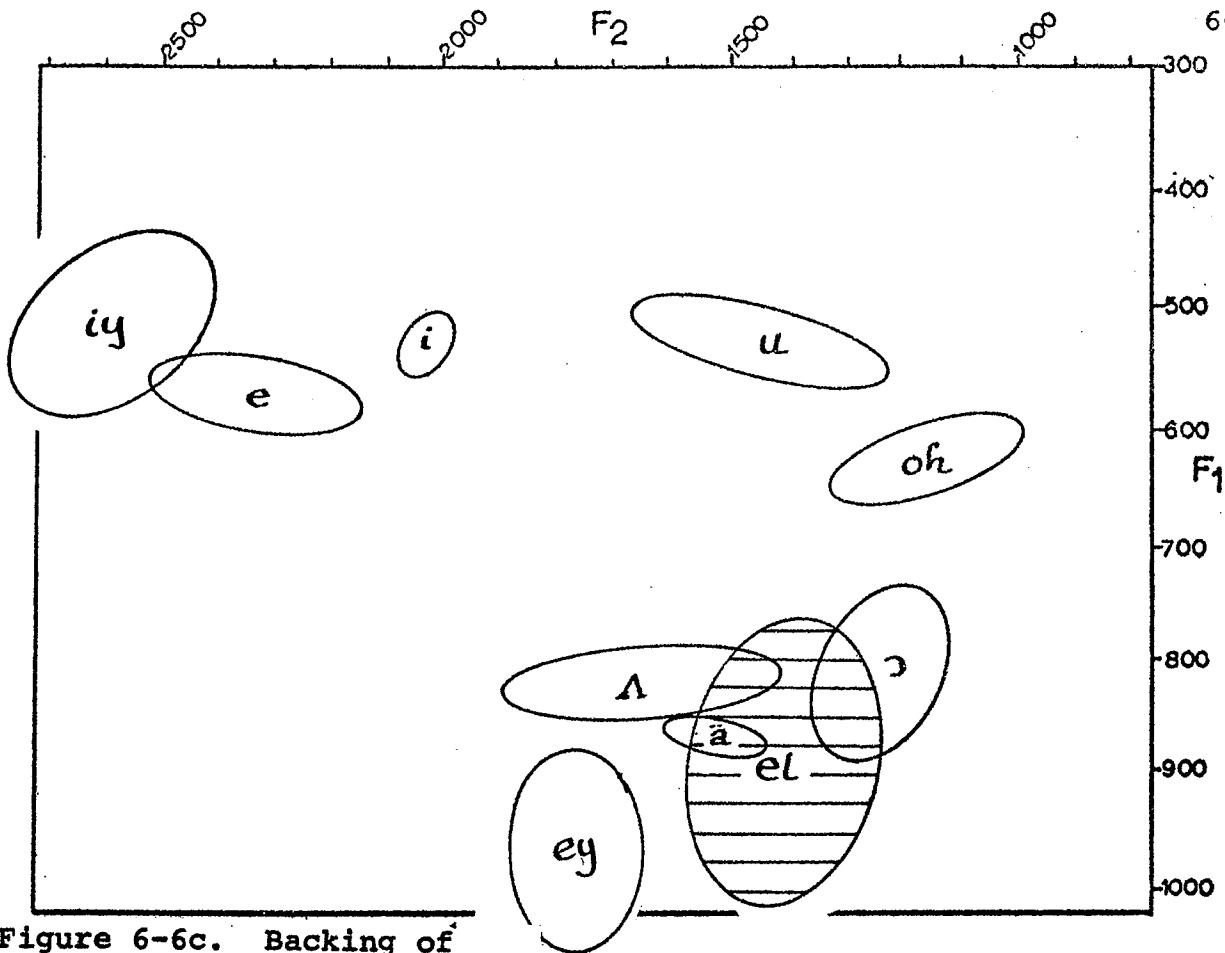


Figure 6-6c. Backing of 'el' in Norwich: Jean Suffling, 15.

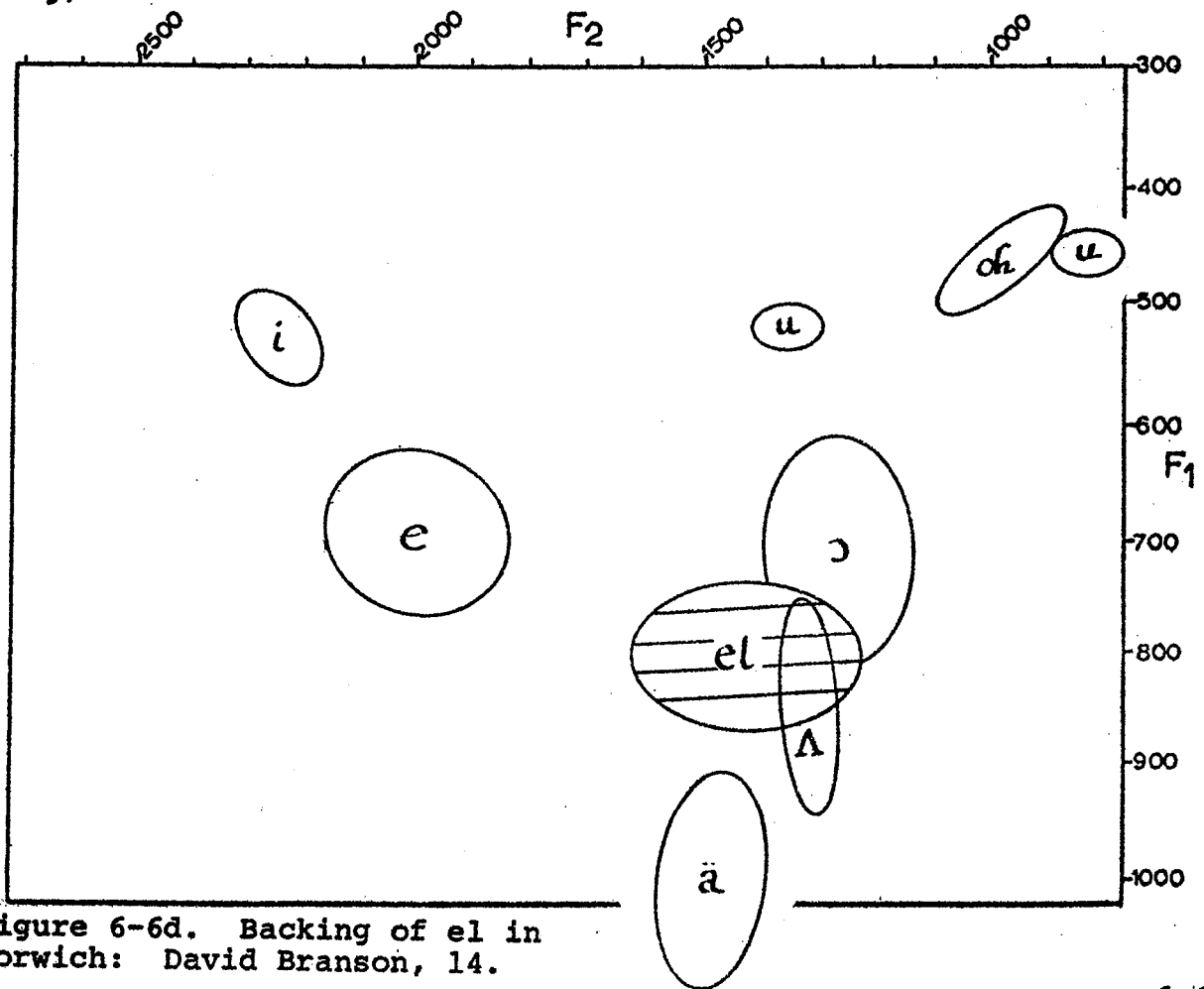


Figure 6-6d. Backing of 'el' in Norwich: David Branson, 14.

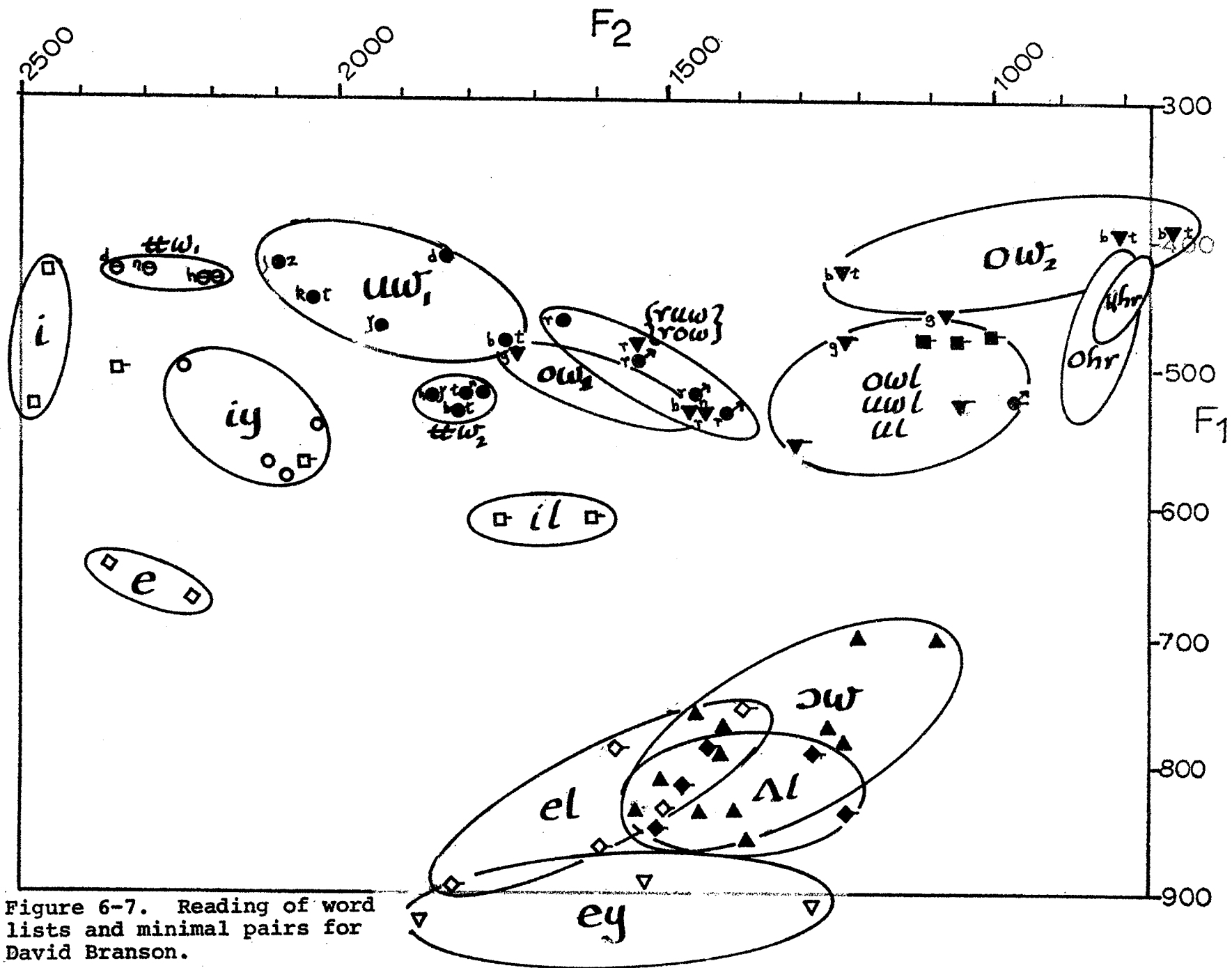
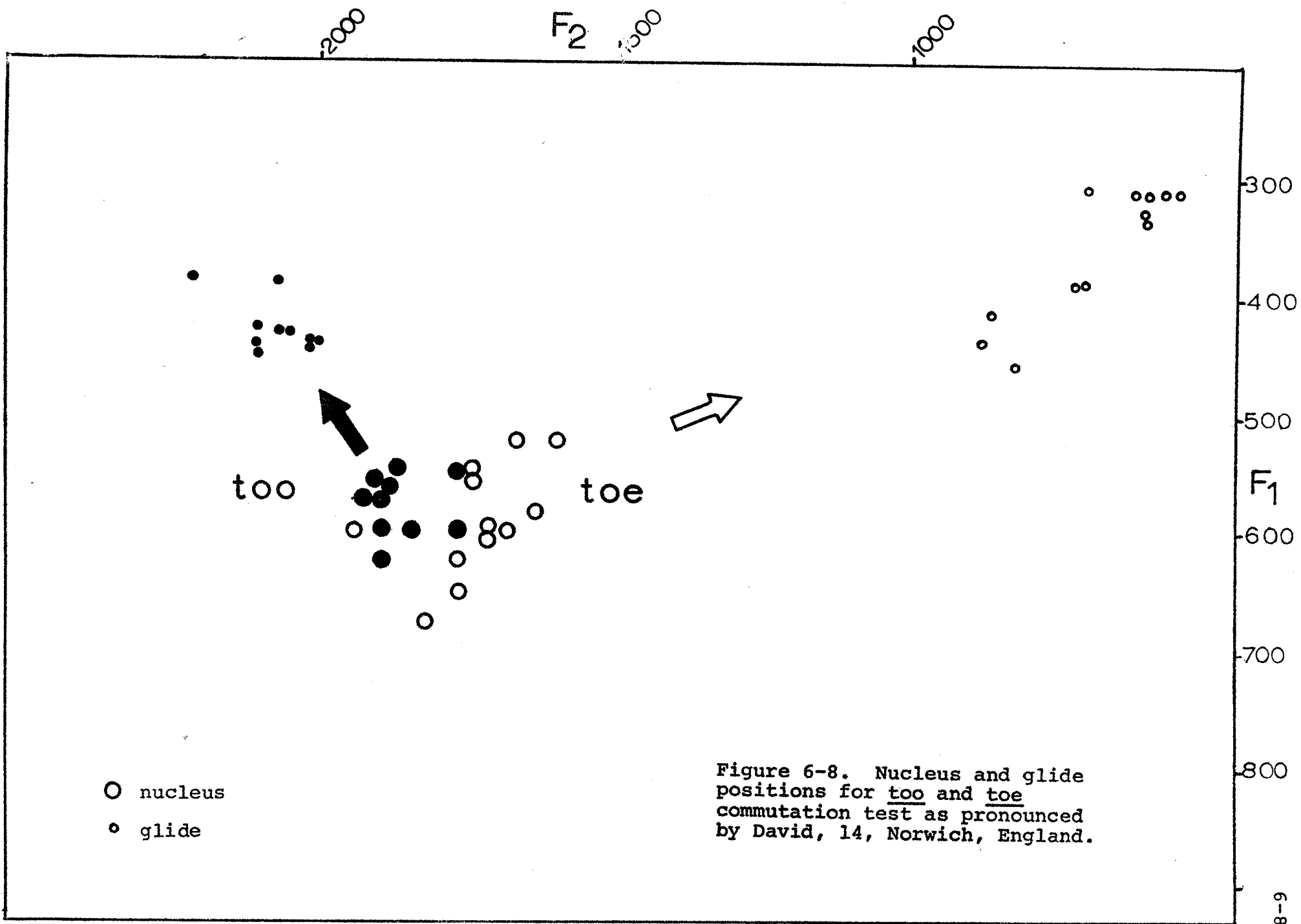
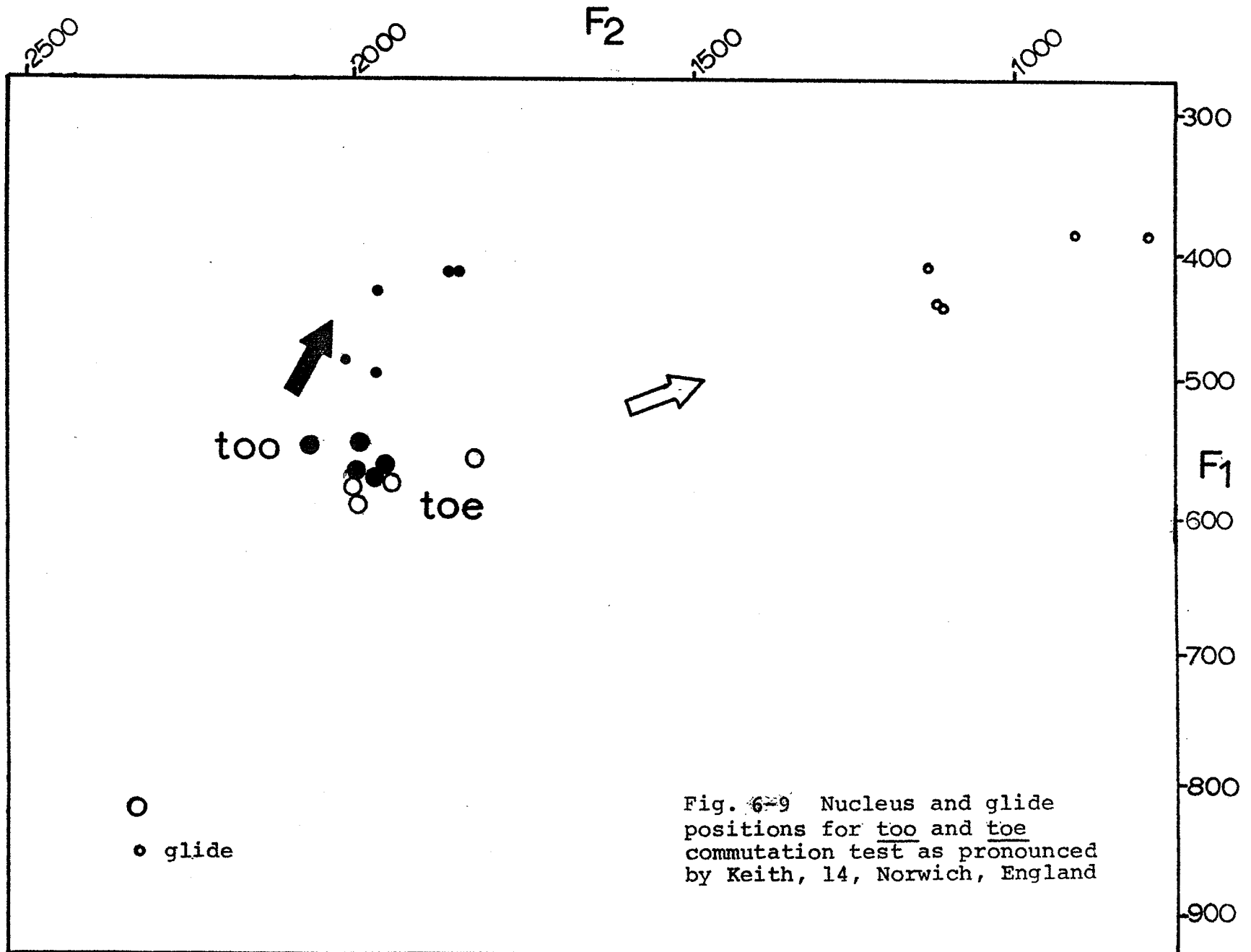


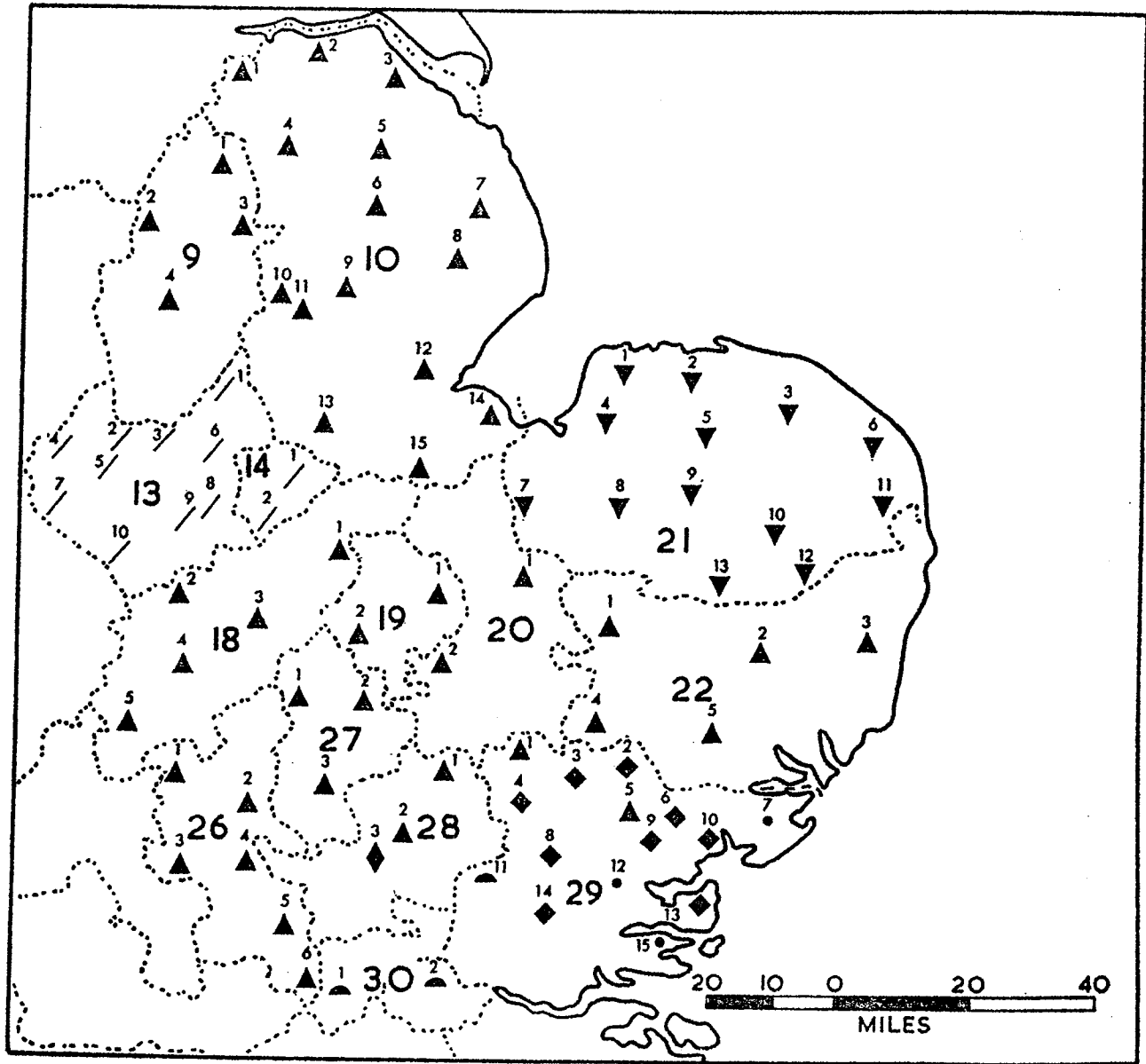
Figure 6-7. Reading of word lists and minimal pairs for David Branson.





EAST MIDLAND AND EAST ANGLIAN NETWORK

SHOWING LOCALITIES RECORDED BY EACH FIELDWORKER



- Michael V. Barry
- ◆ Howard N. Berntsen
- ▲ Stanley Ellis
- ▼ W. Nelson Francis
- ◇ Marie Haslam
- / Averil H. Playford
- ◐ Peter Wright

Figure 6-10. Localities in East Anglia and East Midland studied by English Survey of English Dialects from Orton and Dieth 1970.

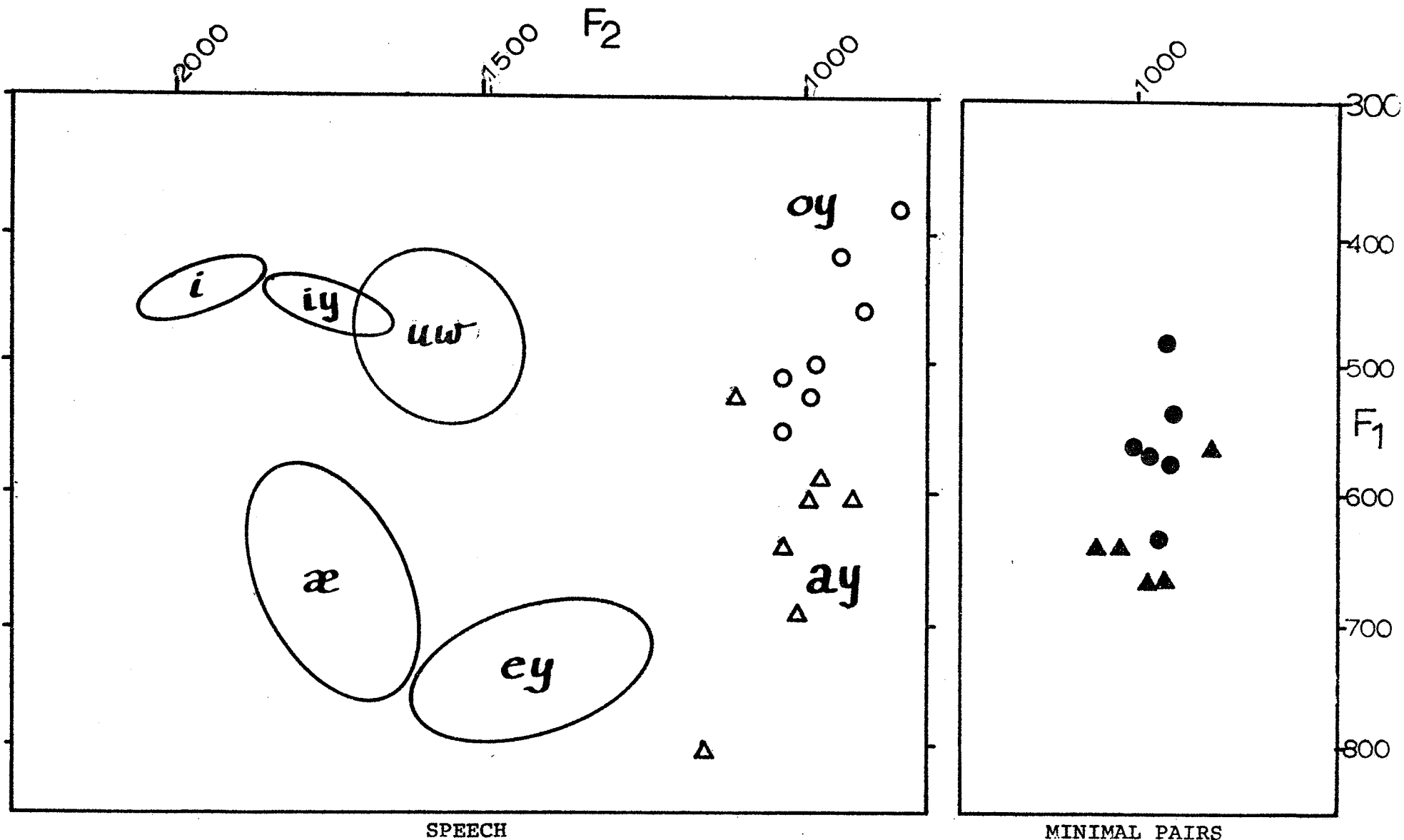


Fig. 6-11 Distribution of /ay/ and /oy/ in the vowel system of Jack Cant, 85, Tillingham (Essex), England

○ oy
 △ ay

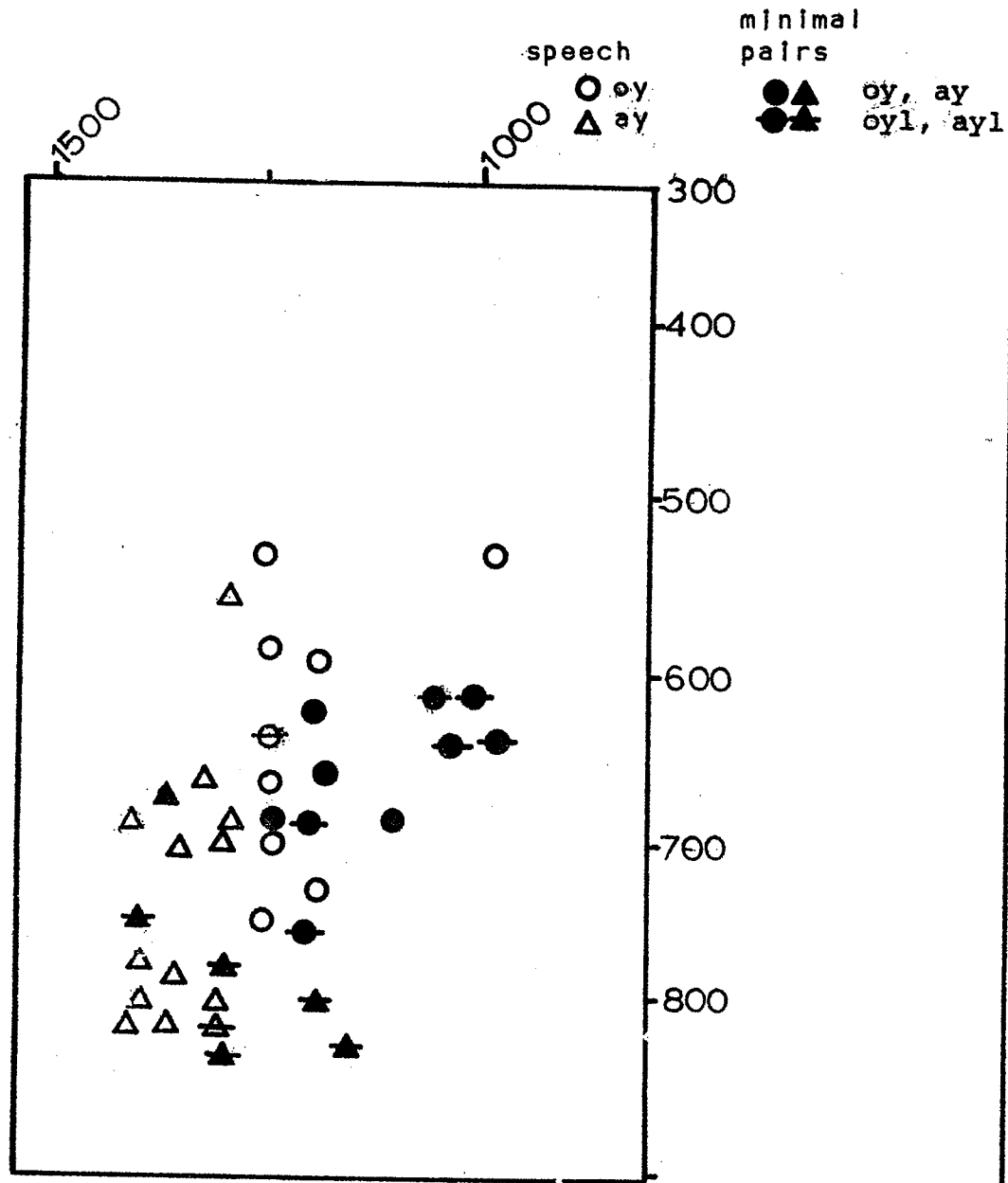


Fig. 6-12 Distribution of /ay/ and /oy/ in the vowel system of Mrs. Leonard Raven, 69, Tillingham (Essex), England.

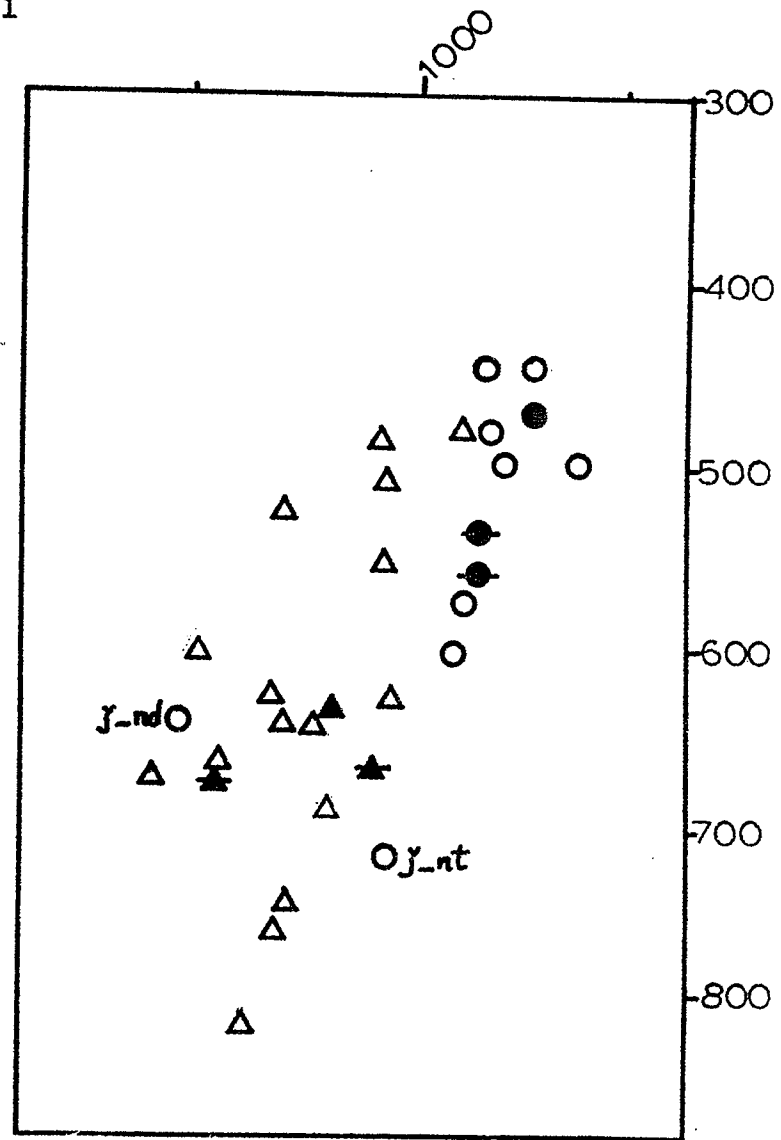
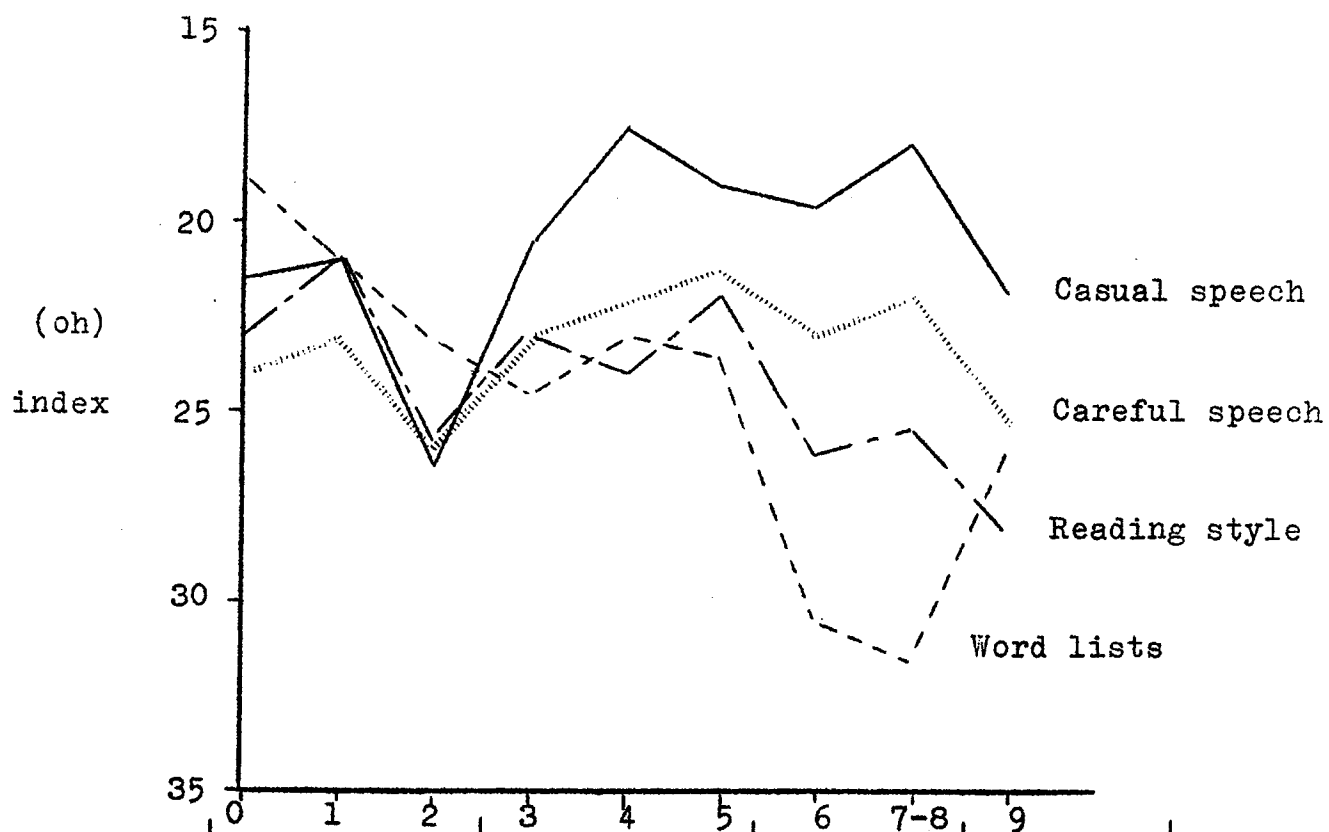


Fig. 6-13 Distribution of /ay/ and /oy/ in the vowel system of Leonard Raven, 70, Tillingham (Essex), England.

Figure A-1 Development of style stratification of (oh)
in socio-economic sub-classes of New York City



Socio-economic class	"Lower class"	"Working class"	"Lower middle class"	"Upper middle class"
Stylistic stratification	None	Slight	Extreme	Moderate
(oh) in casual speech	Low	High	High	Low

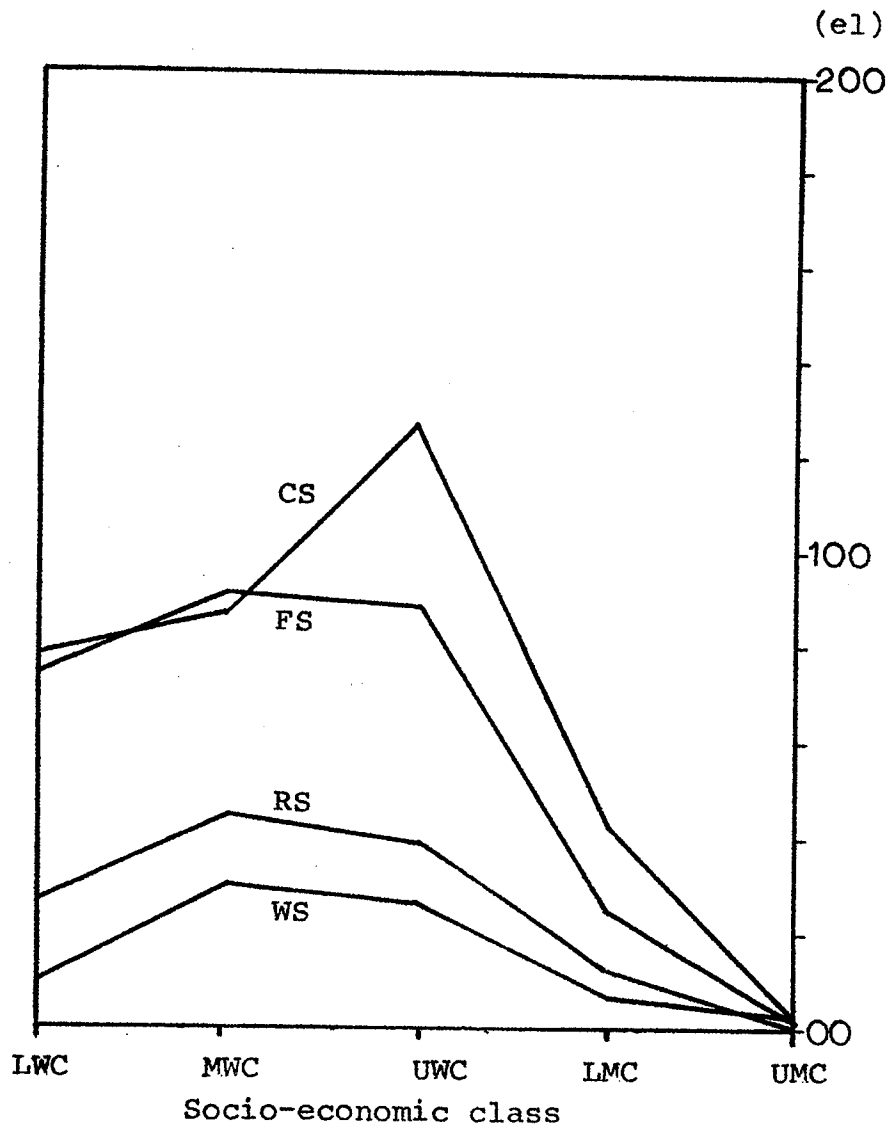


Fig. A-2 Class distribution of (e1) in belt, help, etc., in Norwich (after Trudgill 1971).

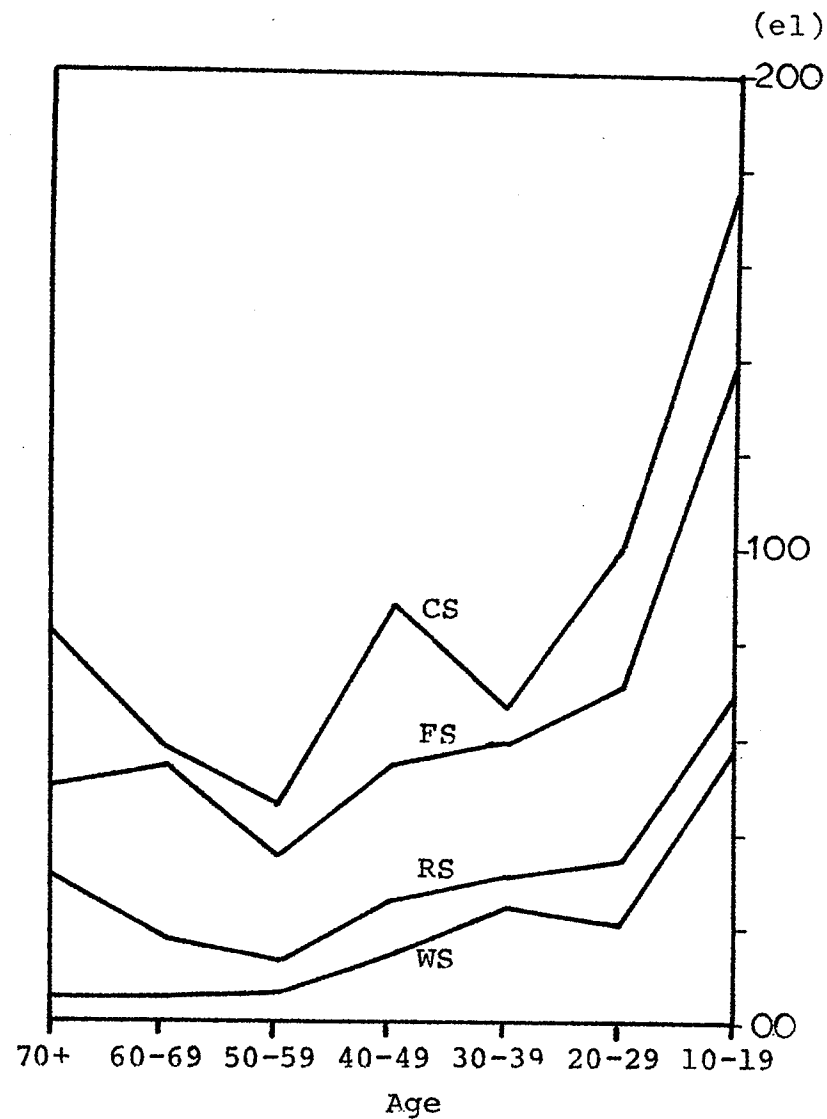


Fig. A-3 Age distribution of (e1) in belt, help, etc., in Norwich (after Trudgill 1971).

LWC = lower working class; MWC = middle working class; UWC = upper working class; LMC = lower middle class; UMC = upper middle class. CS = casual style; FS = formal style; RS = reading style; WS = word list style.

Figure A-4. Backing of (el) in Norwich: James Wicks, 74.

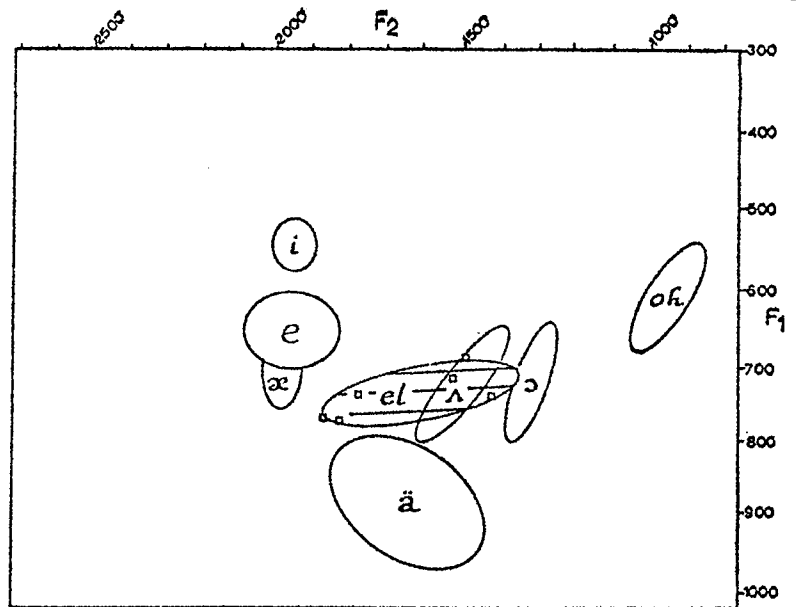


Figure A-5. Backing of (el) in Norwich: Les Branson, 42.

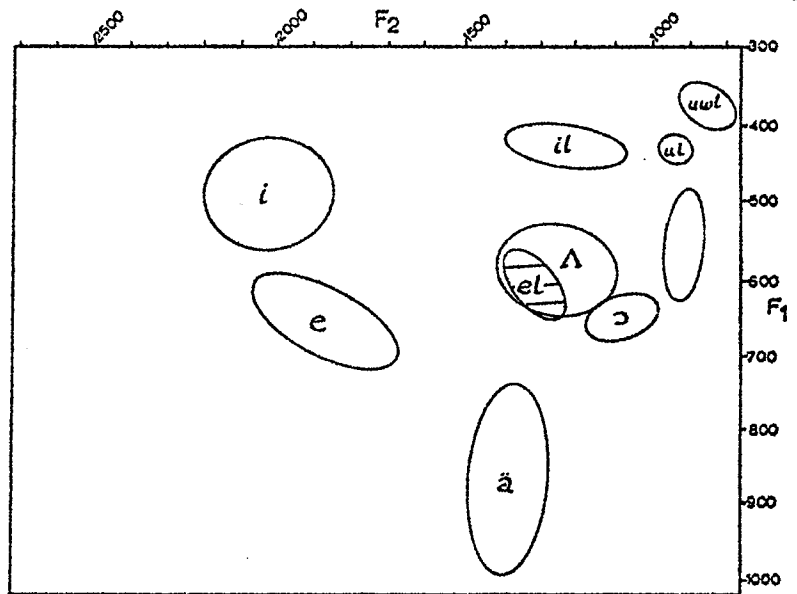
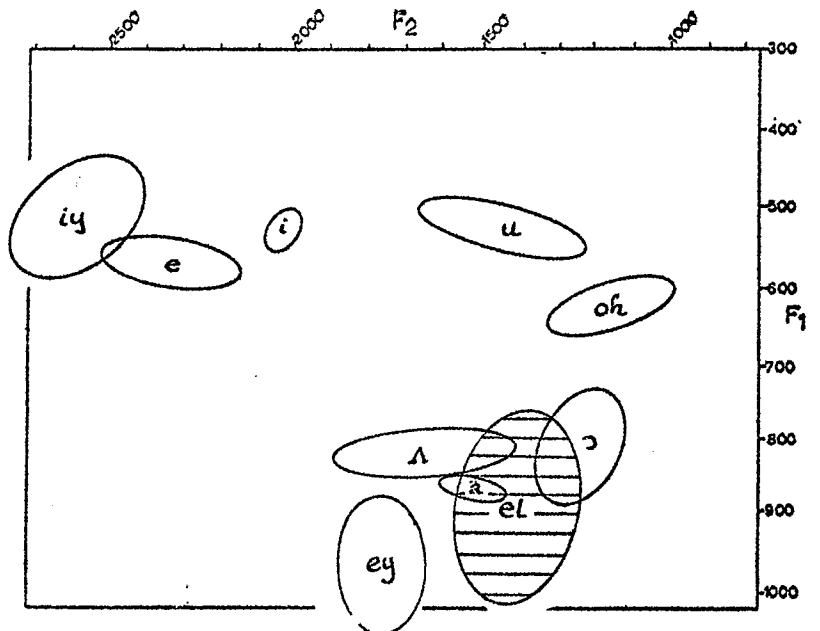


Figure A-6. Backing of (el) in Norwich: Jean Suffling, 15.



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