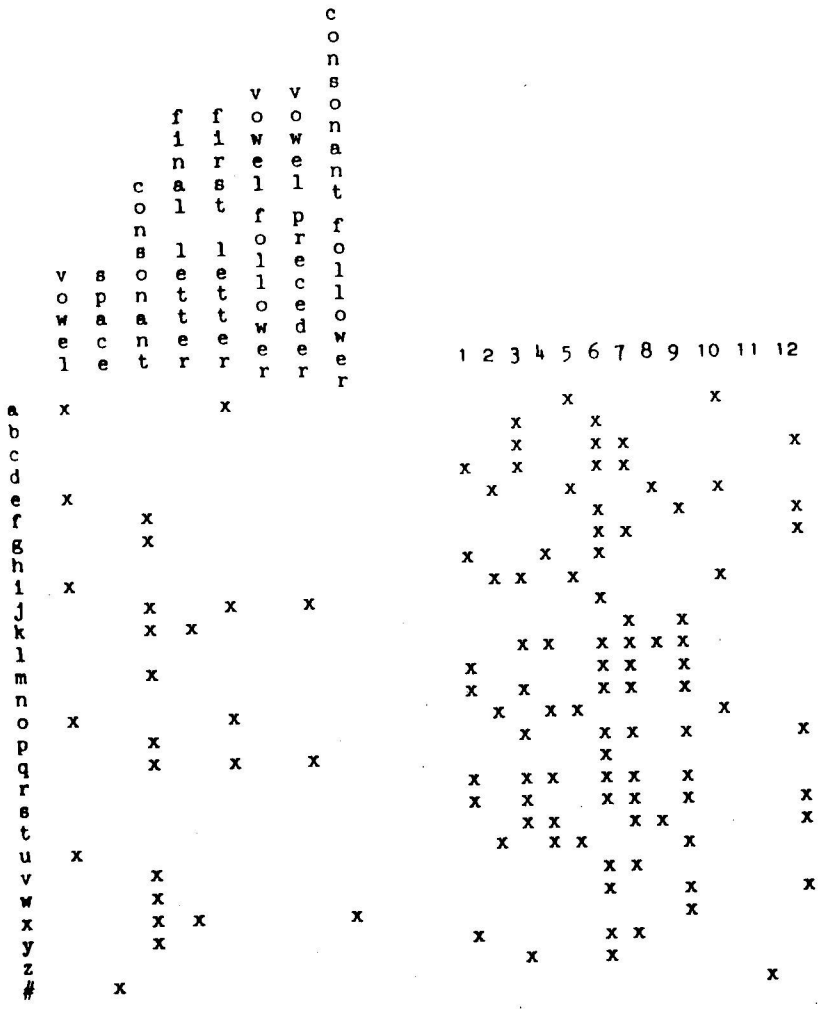
let us concentrate on the 12 state model. As one might expect, q is to be found in the pre-vowel state 6. If each of the other letters is inspected in this way, the table on the following page results. We have marked only those properties opposite a letter which are practically assured. Thus, for example, if a letter can occur in other than a final letter state, an x is not marked in the final letter column opposite that letter.

Each letter has its own character, appearing in each of the 12 states with some (possibly zero) probability. These 12 numbers present a unique profile of each letter, and similarities in these profiles will naturally suggest similarities in usage. Thus, e.g., l and r have similar profiles. It is instructive to plot these profiles for the 2-state model. This is done in Figure 1, where the x-axis corresponds to state 1, and the y-axis to state 2.

The crowding along the axes is alleviated when more states are introduced, and by the time one has 11 states the separation of letters is quite good.

V. The Information in English

Some time ago Shannon [6] investigated the entropy of English and found that in a certain sense the information rate of English is very close to one bit per letter.

TABLE III

	vowel	space	consonant	final letter	first letter	vowel follower	vowel preceder	consonant follower	1	2	3	4	5	6	7	8	9	10	11	12
a	x				x								x					x		
b											x			x						
c											x			x	x					x
d									x		x			x	x					
e	x									x			x			x		x		
f			x											x			x			x
g			x											x	x					x
h									x			x		x						
i	x									x	x		x					x		
j			x		x		x							x						
k			x	x											x		x			
l											x	x		x	x	x	x			
m			x						x					x	x		x			
n									x		x			x	x		x			
o	x				x					x		x	x					x		
p			x								x			x	x		x			x
q			x		x		x							x						
r									x		x	x		x	x		x			
s									x		x			x	x		x			x
t											x	x			x	x				x
u	x									x		x	x				x			
v			x											x	x					
w			x											x			x			x
x			x	x				x									x			
y			x						x					x	x					
z											x			x						
#		x																	x