The Authorship of the Jwāngdž

E Bruce Brooks 白牧之
University of Massachusetts at Amherst
WSWG Note 115 (25 Dec 1996)

There is a way to answer the recurring question, In how many ways can x items be dispersed in a set containing y items? That technique has utility in the text sciences. I here illustrate the utility without expounding the technique.[1]

Problem. The Jwāngdž once had 55 chapters. Nothing in Warring States or Hàn records makes distinctions among the 55. The abridged edition of Gwō Syàng (c0280), our present text, contains only 33 chapters, and divides them as follows:[2]

- Inner Chapters (内篇), JZ 1-7
- Outer Chapters (外篇), JZ 8-22
- Miscellaneous Chapters (雜篇), JZ 23-33

In 1994 there appeared Classifying the Zhuangzi Chapters, by Liu Xiaogan. On p1-2, Liu states four theories of Jwāngdž authorship. They can be summarized this way:

- Jwāngdž wrote JZ 1-7, all other chapters are later (Wáng Fū-jr̄, 1619-1692)
- Jwāngdž wrote JZ 8-33, all other chapters are later (Rv̀n Jì-yǜ, 1983)
- Jwāngdž wrote JZ 1-2, other Inner chapters are jumbled (Fv́ng Yǒu-lán, 1965)
- Jwāngdž wrote the entire work (Lù Chīn, 1983)

Liu adds, "Admitting the premise that *Zhuangzi*, the book, is related to Zhuangzi, the person, the above four positions are the only possible ones concerning his works" (p2). Is this statement correct? Or to put the question more generally, how many Jwāngdž authorship theories *are* there? We may consider the possibilities step by step.

One-Chapter Authorship Theories

If, as Liu reports, it is possible for Jwāngdž to have written only JZ 1-2, then there should be nothing to prevent his having written only JZ 1, and if so, then he might have written any *other* single chapter. There are 33 extant chapters, any one of which Jwāngdž might have written, leading to exactly 33 one-chapter authorship theories.

Two-Chapter Authorship Theories

No less obviously, if Jwāngdž wrote JZ 1 and 2, then nothing prevents his having written JZ 1 and 3, or JZ 1 and 4, or JZ 1 plus *any* of the remaining 32 single chapters. This leads to 32 two-chapter authorship theories *in which JZ 1 is one of the chapters.* Very good, but this does not yet exhaust the two-chapter possibilities.

---

[1]The technical name of the technique is "permutations." See also Brooks **Binary**.

[2]For details, see Brooks **Jwāngdž Editions**.

We next consider two-chapter authorship theories in which *JZ 2* is the constant. The first of these will ascribe JZ 2 and 3 to Jwāngdž, then JZ 2 and 4, JZ 2 and 5, and so on, to the theory that Jwāngdž wrote JZ 2 and 33. There are 31 such theories in all. Then come two-chapter authorship theories for JZ 3-33 (which number 30), and for JZ 4-33 (29 theories). Notice that the number of two-chapter theories is systematic: 32 plus 31 plus 30 plus . . . Finally, Jwāngdž may have written JZ 32 and 33 (1 theory). The number of two-chapter authorship theories is thus $32 + 31 + 30 + . . . + 2 + 1$. With or without a computational shortcut,[3] these numbers sum to 528.

Further Authorship Theories

Nor is there a reason to think that Jwāngdž could not have written JZ 1, 2, and 3. But if that is possible, then so is JZ 1-2 and 4, or JZ 1-2 and 5, or any of the 31 theories which have JZ 1-2 as constant members. Similarly, there will be 30 theories based on JZ 1 and 3 plus (as the variable member) JZ 4, or 5, or 6, down to JZ 33; of theories on this model, there are 29. The last of the three-chapter authorship theories which includes JZ 1 will ascribe to Jwāngdž JZ 1, 32, and 33; there is 1 such theory. But it is not necessary that JZ 1 should be included (in fact, JZ 1 is quite different in tone, even from the other "Inner" chapters), so we must also consider three-chapter authorship theories *excluding* JZ 1, beginning with JZ 2, 3, and 4 . . .

In time, we reach seven-chapter authorship theories (of which the JZ 1-7 theory is only the first), eleven-chapter authorship theories (of which the JZ 23-33 theory is the last), and fifteen-chapter authorship theories (of which the JZ 8-22 theory is only one). The bad news is that at each step, the number of theories increases. The good news is that, beyond this point, that number decreases. At last we reach the thirty-two-chapter authorship theories. It is easy to see that there are 33 of these, since each of them omits only 1 of the 33 chapters as *not* by Jwāngdž. Note the symmetry with the one-chapter authorship theories. And finally, as for the theory that Jwāngdž wrote all 33 chapters, there can obviously be only one such theory.

Solution. The total number of authorship theories works out to be 8,589,934,591. But wait – is it not also possible that Jwāngdž wrote no Jwāngdž chapter whatsoever? If so, we must add 1 to our total, making the final count 8,589,934,592.

It would thus appear that the opinion quoted above has slightly underestimated the number of possible Jwāngdž authorship theories. No doubt a mere slip of the pen.

Works Cited

E Bruce Brooks. Binary Possibilities. WSP v2 (2011) 69-70
E Bruce Brooks. Jwāngdž Editions. WSP v2 (2011) 126-128
Liu Xiaogan. Classifying the Zhuangzi Chapters. Michigan 1994

---

[3]Combine the outside pair, $1 + 32$, then the pair inside them, $2 + 31$, and so on; the center pair is $16 + 17$. There are 16 such pairs. Since each pair sums to 33, the total is $16 \times 33 = 528$. Gauss spontaneously discovered this computational shortcut at the age of ten; the rest of us manage as best we can. The entire Jwāngdž authorship problem here discussed at painful length can be solved in exactly 18 seconds, if one knows how.