

# **Bragan in Pittsburgh: Sabermetrican Ahead of His Time?**



**Mark Pankin**  
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Notes provide additional information and were reminders during the presentation. They are not supposed to be anything close to a complete text of the presentation or thorough discussion of the subject.

Use Acrobat Reader's ability to enlarge what appears on the screen if you have trouble reading a graph or table.

## **Bragan at SABR 24, 1994**



■ David Vincent photo

He was 76 at the time and as feisty as ever.

We lost DV just after last year's SABR. He will be missed by many. In addition to his numerous contributions to SABR and Retrosheet, he was a talented and avid photographer.

## Bragan's "Experiment"

- August 18, 1956 at the Giants
  - Led off with two best power hitters (Thomas, Long)
  - Pitcher batted #7
- 8/29/56 *Sporting News* article:
  - Wanted to get more at bats for best HR hitters
  - Pitcher #7 so men on more likely when #1, #2 hit
- Bragan believed #1, #2 were likely to bat in 9<sup>th</sup>
- Pirates stuck in 6<sup>th</sup> place at time after fast start, so little to lose and wanted to shake things up

The thinking about who is likely to bat in the 9<sup>th</sup> comes from an article in *True Magazine* in 1957 quoted in the *Fireside Book of Baseball* (1958). He thinks close, low scoring games are likely to see the #1 and #2 hitters bat in the 9<sup>th</sup>, and said Allan Roth confirmed that.

Said there were two consecutive 1-run wins over Braves where #2 Johnny Logan made last out. There was one win over the Braves in 1956 where Logan batted last.

Pirates led NL on 6/15 by half a game over the Dodgers in a five team race with 29-21 record , but by 6/30 they had fallen to 32-33 in 5<sup>th</sup> place, 6 games back. Lost 8 in a row in late 7/27 – 8/2

## **Analytical Approach**

- Compute expected runs per game
  - "Normal" batting order
  - Bragan's unusual lineups
  - Best scoring lineups
- Find probabilities of batting spots leading off ninth
- Markov model can estimate these
- Data source: [retrosheet.org](http://retrosheet.org)

See my web site for Markov model details. Address is at the end.

## Pirates "Normal" 1956 Lineup

	POS	BA	OBP	SLG	HR	SB/CS
VIRDON	CF	0.334	0.374	0.462	8	6/6
GROAT	SS	0.273	0.317	0.321	0	0/3
WALLS	LF	0.274	0.345	0.432	11	3/5
LONG	1B	0.263	0.326	0.485	27	1/0
THOMAS	3B	0.282	0.326	0.461	25	0/5
CLEMENTE	RF	0.311	0.330	0.431	7	6/6
SHEPARD	C	0.242	0.309	0.383	7	1/1
MAZEROSKI	2B	0.243	0.293	0.318	3	0/0
PITCHER	P	0.160	0.201	0.196	2	1/0

- Lineup's expected R/9 inn: 4.182 (Markov)
- Pirates had lower R/G than NL (3.75 vs. 4.25)
  - Lower OBP (0.307 vs. 0.321)
  - Lower SLG (0.380 vs. 0.401)

Bragan shuffled his lineup frequently and often either used a different catcher (Hank Foiles) or played Bob Skinner at 1B or in the outfield.

Lineup shown is based on frequency of hitting in each slot for each player. Not sure if Bragan ever used it! Main weakness is Groat hitting second.

Pirates had 110 homers, other 7 teams avg.: 158; next lowest 121 (Phillies), highest by far 221 (Reds); players in table had 90.

Clemente usually batted higher later in the season as his talent as a hitter became evident.

Not a great hitting team although Virdon, Clemente finished second and third in BA for NL. (Aaron was #1 at 0.328, Virdon's whole season—24G with Cards, 133 with Pirates—was 0.319) No SLG of 0.500 or better. Not much speed, highlighted SB/CS column, so that likely not a consideration in the lineup and in those days SB used far less than now.

Maz was a rookie, and Clemente did not show his potential in 1955, his rookie year. Groat was in his third year, but did not blossom until the following year.

## Expected Scoring

	NORMAL	AUGUST 18	TYPICAL EXPERIMENT	BEST	BEST WITH P #9
1	VIRDON	THOMAS	THOMAS	WALLS	VIRDON
2	GROAT	LONG	WALLS	VIRDON	WALLS
3	WALLS	VIRDON	CLEMENTE	CLEMENTE	LONG
4	LONG	WALLS	LONG	LONG	CLEMENTE
5	THOMAS	CLEMENTE	VIRDON	THOMAS	THOMAS
6	CLEMENTE	GROAT	GROAT	SHEPARD	SHEPARD
7	SHEPARD	PITCHER	PITCHER	PITCHER	GROAT
8	MAZEROSKI	MAZEROSKI	SHEPARD	MAZEROSKI	MAZEROSKI
9	PITCHER	SHEPARD	MAZEROSKI	GROAT	PITCHER
R/G:	4.182	4.280	4.262	4.314	4.311
RUNS/154 GAMES:					
	644	659	656	664.4	663.9

Bragan shuffled his front-loaded lineups as he did with the normal ones. Aug. 18 was the only time Thomas and Long hit #1, and #2.

His “normal” lineup is the weakest shown due primarily to Groat hitting #2 (66 of 142 games, so more than half of his games, discounting experimental lineups). Since it takes about 10 runs a season to produce one more win, either of his experimental lineups should do that. The August 18 one, never repeated, was better than the typical ones.

The optimal lineups are a little better than the experimental ones, but may not have produced another win.

Note that the best lineup (found by Joel Sokol, Georgia Tech) has the pitcher hit 7<sup>th</sup>. Sokol’s studies indicate that the

best place for the pitcher to bat often is number seven. My studies have shown it doesn't make much difference if the pitcher bats 7<sup>th</sup>, 8<sup>th</sup>, or 9<sup>th</sup>. Note the difference with P at 9 is only 0.003 less than the best.

Bragan's ideas had merit.

## Probabilities Leading Off 9<sup>th</sup>

	NORMAL	AUGUST 18	TYPICAL EXPERIMENT	BEST	BEST WITH P #9
1	11.5%	10.4%	10.5%	10.8%	11.6%
2	9.4%	9.9%	10.0%	9.9%	9.3%
3	11.1%	10.2%	10.1%	9.9%	10.5%
4	10.9%	10.4%	10.9%	11.7%	11.3%
5	11.5%	11.6%	11.8%	10.9%	11.2%
6	12.0%	11.7%	11.0%	11.6%	12.0%
7	11.3%	11.9%	12.0%	11.9%	12.1%
8	11.5%	12.9%	13.0%	12.8%	11.0%
9	10.9%	11.0%	10.6%	10.4%	11.0%

- Highest three consecutive highlighted in red
- Assumes pitcher always bats
- Differences are small
- Front loaded: slight increase in chance of #1 in 9th

The highest three consecutive lineup spots are highlighted in red.

Pinch hitters for pitcher might change things, but likely not by very much.

The differences among the lineup spots are quite small, so it is virtually random which one will lead off the ninth.

Bragan's feeling about who would be up in the ninth (in a low scoring, close game) may be justified, but is not meaningful due to almost random nature of who leads off in the ninth.

## How Well Did It Work?

- 15 of 20, 8/18 through Labor Day (9/3) front-loaded with pitcher #7
  - Long or Thomas hit (#1 or #2)
  - Won 8, Lost 7 (Whole season: 66-88-3)
  - Avg. R/G 4.47 vs. 3.67 for other 1956 games
  - 0-4-1 not front-loaded with pitcher #7, 6 runs in the 5 games
- Pitcher batted 9<sup>th</sup> after 9/3
  - 0-3, 12 runs in front-loaded games (last 9/13)

8-7 includes 8/18 game, won 9-1 at Giants. Lost 4 in a row after that game with front-loaded, 2 more without, and 2 more with before winning 7 of 8 when front loaded used (and P #7).

Other lineups with pitcher #7 usually had Bob Skinner in the first or second spot. While he developed into a good hitter, in 1955 and 1956 he was a weak hitter, so I did not consider batting him #1 or #2 as front loading.

The 66 wins was the most since 1951 and attendance was the best since that year, so Bragan was a success although quite controversial although the team finished in 7<sup>th</sup>, 27 games behind the Dodgers. They had been expected to finish last as they had in 1950, 1952-55.

## **Chatting with Bragan in '08**

- He liked DC SABR talk I gave in Jan. 2008
- Never did it in the minors
- Felt mid-August was "right time"
- Except for Groat (who did not like batting near bottom of order), players accepted it
- Thought he might have put Aaron higher than #3, but only did it once

Only talked to him briefly in 1994, and I did not know about the pitchers hitting seventh then, just the power hitters at the top of the order. He was adamant about that saying the extra at bats and homers were a huge advantage. Did not talk to him about on-base percentage. He said he took so much heat from the press that he did not want to continue with the front loaded lineup, and obviously he did not. As best I can tell, he never used it again.

Article in True/Fireside (mentioned in notes to an earlier slide) said he had the idea in 1947 while playing for the Dodgers. He presented it to Burt Shotton, their manager, and it was rejected as he was told to try it when he had his own team. That was one reason he decided his future was as a manager (was not a very good player and was paid accordingly), so in 1948 when offered a chance to manage in the minors, he took it. Did not ask why he never did it in

the minors. May have been because that being too radical would diminish his chances of managing in the majors.

He had problems in general with Groat trying to push him harder. Made Groat the captain hoping to assuage him to avoid clubhouse turmoil.

Since he was quite feisty and at times had a contentious relationship with Pirates management, it makes sense that he would be sensitive to too much criticism about his batting orders.

## Why Did He Stop?

- Severe criticism in the press
  - He told me that at SABR 24, and when we talked on the phone
  - Did not find anything in later *TSN*, 8/29 article did not have anything negative
  - Pittsburgh papers: some praise; not critical except for one letter from a fan
- Controversial, problems from other issues

Possibly the time that had passed, 38 years in 1974, 52 years in 2008 had clouded his memory about the reaction of the press. May have been in private. One NY writer was critical of him, but not for the lineup. We talked about Les Biederman, writer for Pittsburgh Press, and Bragan liked him. Biederman said he would vote for Bragan for manager of the year if the Dodgers (not the Braves or Reds) won the pennant. Also said Bragan was the smartest manager. Other Pittsburgh writers not praising, but did not say anything negative.

In his SABR bio, Bragan reportedly said he was not the right manager for the young team since he was pushing them too hard to become better. Also did not get along well with management. Branch Rickey, who knew him from the Dodgers, hired him but was no longer the GM in 1956.

## Notes

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- Dale Long
  - Did not bat him #1 or #2 against LHP
  - Retrosheet splits for 1956 much better vs. LHP (.303/.348/.593) than RHP (.247/.318/.444)
  - 1956 was exception to career splits
- *TSN* article says Casey Stengel might try putting best hitters at top of order, but he never did. With those Yankees, why take a chance on messing things up?

While Bragan was an unconventional thinker, he apparently accepted the platoon advantage concept.

Looked at where Yankees batted in 1956 and 1957 and did not see guys like Mantle or Berra hitting at the top.

## Conclusions

- Bragan's ideas had (Sabermetric) merit:
  - Models show front loaded lineups score more than typical conventional ones he used
  - Academic studies support pitcher batting 7<sup>th</sup> in optimal lineups, but not much difference
- Bragan: unusual manager, but not great
  - Replaced by Murtaugh in August 1957
  - 1/2 of '58 w/Indians; 1963 – Aug '66 w/Braves

Likely was not a “true Sabermetrician” since not really quantitative in his analysis. However, his intuition and baseball “smarts” came to the conclusion that later analysis supports.

Papers by Joel Sokol

(<http://www2.isye.gatech.edu/~jsokol/boouu.pdf>), and Bruce Bukiet (<http://m.njit.edu/~bukiet/Papers/ball.pdf>).

Pirates did much better under Murtaugh (26-25) than under Bragan (36-67) in 1957. Finished second in 1958 and won it all in 1960 as the younger players improved

Fired by Indians in late June with a 31-36 record, in 6<sup>th</sup> place; team finished 4<sup>th</sup> for year.

Had over .500 record for Braves in 1963-65, but never finished higher than 5<sup>th</sup>. Fired in Aug. 1966 with 52-59 record and team in 7<sup>th</sup> place; team finished 5<sup>th</sup> for year.

## **Web sites, e-mail**

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[www.pankin.com/baseball.htm](http://www.pankin.com/baseball.htm)

has details about Markov model and other  
baseball studies

E-mail: [sabr --ATsign--@pankin.com](mailto:sabr--ATsign--@pankin.com)

Plan to post slides, notes on my web site  
and on [Retrosheet.org](http://Retrosheet.org) Research page