

The O B S E R V E R

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On this hallowed ground, brother fought brother and neighbor fought neighbor. In the background you can see the Old Staunton-Parkersburg Turnpike, which was known in the Civil War days as the Trans-Allegheny March. Closeby this ground some of the War's hardest battles were fought -- from May 1861 until the end of the War.

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Hopefully published monthly by the NRAO Recreation Association.
The material for this issue was collected by J. W. M. Baars.

EDITORIAL

This issue of the Observer is somewhat unusual. It has, for instance, no editor. One immediate advantage of that is, that you will find back the capital letters at the beginning of each sentence.

Another good thing about a journal without an editor is that you can not write a letter to him. In other words you are without protection against any fraudulence about yourself which may appear in these pages.

On the other hand you will not be approached by someone with a certain authority requesting that you give your contribution to our monthly newspaper. And this seems to be something everybody likes. It is also because of your general lack of interest in the different things that go on at our Observatory that "The Observer" is now without an editor. I find this a pitiful situation. With the ever increasing size of our institution it becomes more and more important that each individual worker has some feeling as to the underlying ideas and goals behind his part of the work. The best way to achieve this is to give him a knowledge about what is happening in other departments. For this reason it would be unfortunate if the circulation of monthly reports from telescopes, laboratory, administration, and scientific staff (upper floor) would cease to exist. Of course, if you really want to get a feeling of what the life of telescope operator looks like, you should make sure your car is adequately suppressed, drive to the 140' at midnight and just sit there and watch for some time.

Since in a short time a substantial part of the Observatory staff will live and work in Charlottesville, the reasons for the existence of "The Observer" are all the more clear.

I have collected the material of this number in the hope that some of you, seeing and reading this issue, may decide that it is worthwhile to spend some time each month to warrant the life of our periodical. I do not consider myself to be the right person for the editorship. My position among the observatory employees and my native language don't seem to fit with the job. But I promise the next editor a column about happenings at the upper floor of the Jansky Lab.

The authors of the different stories are mentioned at the proper place. This is, I believe the correct way of acknowledging their contribution. The author of the play is of course unknown. The name of the individual who communicated the text to me, is known. Every attempt to obtain his from me is doomed to fail however, because he is afraid that his professor will find out that he published a part of his thesis before official approval.

The authors of one or two anonymous, more or less funny pieces, whose names could not be traced, will not find their work in print for obvious reasons.

I like to thank those who have contributed to this issue. Also I want to encourage the telescope operators to be a better help to the next editor than they were to me. Finally I hope that some of you will take up the editorship of this periodical, because it would be a pity if it ceased to exist.

J. W. M. Baars

The Telescopes by J. W. M. Baars

In spite of many telephone calls and notwithstanding fixed promises none of our telescope operators was able to send me a report within the first week after the deadline. This is of course no reason for the Observer not to appear with a story anyway. About a week ago I showed a visitor around our premises and that gave me a good chance to see what was going on at the instruments. You must forgive me that I don't know how many squirrels Leroy saw and how many bullets Bill lost; I don't even know how fishing is these days!

But let us turn to science. The 5-ft. installation is dead since Ace left. The only scientific importance of this antenna is, that it is the only one which, when filled with beer, can be emptied by Peter Mezger in one day.

Since George Grove is continuously checking the accuracy of WWV time signals, we have not seen much life at the 40-foot.

My wife tells me that the canvas has not been away from the opening of the Little Big Horn over the last two months. So it seems that it becomes time that we tell Cas-A how strong it is.

Hurrying along to the operating part of our antenna park it can be said that the two elements of the interferometer were pointed at the same point of the sky most of the time. Frank Bash can give you the times that this was not the case. Everyone at the interferometer will be happy with the new block diagram of the system. I guess that operations now are a lot easier. Somewhere I heard that an eraser and pencil are attached to each diagram to make the daily changes. But I don't believe that; once a week seems enough to me.

The NRAO scientist has been seen at the 140-foot; T. K. Menon quickly used the telescope for a few days before he was pushed out by a crowd of youngsters with strange accents. Harvard and MIT moved into the quietness of the hills to get away from Haystack. Some people really go far. The operators like to work for the visitors; it gives them the idea to contribute to the fame of New England and its inhabitants. But I fail to understand why it takes them so long to get pictures back at the kitchen wall, from which they were quickly removed in October. Or is it true that Howard is building a cabin and needs wall paper?

At the 300-foot people don't even remember the names of NRAO scientists. There NRL is boss, and how. The analog records are fed from the recorder through a hole in the floor to the basement where they are cut off by Jim; Joe draws the baseline, Russell smooths the curve and together they decide about the quality of the observation. In the meantime the operator works with hands and feet and has lunch with a pill because he can't hold his sandwich. The last news about the NRL men is that they slept during Thanksgiving Day.

Telescopes (Cont'd)

In a few days the 140-foot will also be occupied by the Naval Research Laboratory. Bob Hobbs and Jim Hollinger are coming with a 2 cm receiver. A warning for the operators may be good; they look tiny but they are tough.

Finally a few words about the biggest telescope, if you measure it in wavelengths. The surface of the 36-foot is still not completed, but work seems to be in progress. At Kitt Peak things are shaping up. The computer has been delivered and W. Weller spend a few weeks testing it. If we ever get the assembly program we may have a pretty good system, he says. Bill Terrell seems to do fine in the hotter parts of the world and is eager to see the dish mounted and operating. If you do not believe these things really happen at our telescopes, call one of the operators one day. He may tell you something; they did not to me this month, that's why this story may look different.

The European colony here has undergone some changes recently. After Mrs. Hoglund and the boys left us already in the beginning of August, Bertil himself followed half September. Not considering for a moment that he took a few cubic feet of fossiles with him (and everyone knows how rare these are in this neighborhood) there are good reasons to miss him. Because it was Bertil who took on numerous hikes over long and difficult trails not only a compass, map, and snake bite kit (we never used the last one) but also a rucksack, which he insisted to carry himself all the way. Reaching the mountain top it appeared why. He did not trust us with the beer, which he always shared with his surprised company.

During coffee time you could always predict a humorous remark, and there were many, because he used to smile in advance, so he could tell it with a serious face. Also he was the only scientist who sitting behind his desk faced the door. A small investagation revealed why. You still don't know why he chose that position? You mean to tell me that you never looked on the inside of his office door? Well, you sure missed something.

We wish Bertil and his family all the best they can wish in the old country, which will undoubtedly look quite new in some respects. We hope to see you back one day.

New in the scientific community are Johann Schraml, Zygmunt Turlo, and C. Sastry.

Johann received his degree in physics recently from the University of Munich, Germany. He is with us to gain general experience in radio astronomy and he works with (who over there said "for"?) Peter Mezger.

Zygmunt is from the Astrophysical Laboratory in Torun, Poland, where he worked for the last five years, mainly in solar radio astronomy. He wants to get an idea what is going on at a large insititute like ours and I would say that he is really in for something. His plans are to observe occultations of several sources by the solar corona. Sastry worked at Yale University until recently and will be with us for about one year. He has joined the efforts of Morton Roberts of extragalacitic hydrogen line observations. He and his wife are living in one of the apartments of the residence hall.

We extend a welcome to them and wish that the quietness of our surroundings may have a healthy infulence on their scientific endeavors.

With sorrow we report the loss of Arnold Davidson. He decided to move to sunny Arizona and work with Frank Low. I bet these chaps are going in the bolometer business. What do you think of: Low and Davidson, "Astro-Bolometer Incorporated". With Ace being away I wonder who will carry the loot home from the weekly poker games.

Solution of last month's problem: Arrange three sevens (7) so that they equal 20. The answer is:

$$\frac{7+7}{.7} = 20$$

Advertisement:

My wife's cousin is offering her service as help or babysitter. Her name is enny van't Hof, she lives with us and can be reached any time on phone 456-4411.

J. W. M. Baars

Ceramic Workshop.

Effective since Wednesday, 17 November, the Ceramic Workshop is again open to the artists. The store-supply portion will be open from 7-8 P.M. The other rooms will be open as long as you want to work. These hours will be effective for every Wednesday until further notice.

Children's Christmas Party by Bob Vance

The children's Christmas party will be held this year on Sunday, December 19, 1965, from 4 P.M. until 6 P.M.. Santa will be in attendance to start a happy holiday season. Bring your youngsters for what promises to be an enjoyable time with Christmas carols, cartoons, eats, and Santa's visit. Dues money to the recreation association makes this event possible. See you with Santa.

New Years Dance by Bob Vance

An orchestra has been booked to play music for the adult dance this year on January 1, 1966. The Royal Virginians from Staunton, Virginia will play music for the gala event. The time is 9 P.M. until 1 A.M.. Make plans now to attend. Tickets will be on sale from Monday, December 13th through Tuesday, December 21st for employee-members only. After December 21st, guest tickets will be available and may be purchased through an employee-member. It is necessary to set a limit on the number of tickets according to space available. Don't wait until the last minute to get your tickets. employee-member tickets will be \$3.00 a couple and \$2.00 for single. All guest tickets will be \$5.00 a couple and \$4.00 single.

Non-member Employees May Be Considered As Guests For This Function. This results from action taken by the Board of Directors at the November meeting. The employee-member is responsible for his guests.

Again this year the National Radio Astronomy Observatory Recreation Association will be having a Teen-age Dance for NRAO employees' teen-agers. Notices will be sent out the first of December announcing the date, time, and place.

Administration

It has been a couple of months now since the Observer has been published and I don't believe the following people, which are all familiar to us now, have been officially welcomed by the Observer:

C. V. Sastry	Basic Research Group
Zygmunt Turlo	Basic Research Group
Johann Schraml	Basic Research Group
S. Weinreb	Electronics
Glenn Ertell	Electronics
Thomas Dunbrack	Electronics
Arden Sims	Telescope Operations
Roy S. Drake	Fiscal

The following people have left the Observatory since the last publication and I am sure they are all missed by every one:

Arnold Davidson	Cryogenics Lab
Lillian Ness	Scientific Services

Lab GabDigital Group

Glenn Ertell has successfully taken over the reins of the digital horse, which had previously been held by a

Lab GabDigital Group (Cont'd)

Bare, and everything is running "relatively smooth".

Bill Vrable came back from Kitt Peak after firing up all digital equipment for the 36-ft. telescope. If it doesn't work, we all know whom is to be blamed. His coming back is a great relief to the digital group because one engineer, one technician, and one student are hard pressed to keep up with the trouble in the digital systems at the 140-ft., the interferometer, and the 300-ft.

Roy Rogers' car is now air-conditioned.... when the weather is cold. They always say, "A Ford heater is no better than no heater..", or something like that.

The digital group claims 38% fewer "home projects" than any other group. Said one of their co-op students, "maybe if I got to work on time I would have more time for my hi fi."

Front End Group

We have had the 18 and 21 cm system on the 140-ft. since Oct. 4. A 20 cm and 40 cm system is being built for Dr. Roberts' use on the 300-ft. with the 20 channel multi-filter receiver, which is now being revamped by Claude Bare. The system is scheduled to go on the scope in mid-December.

Doing design studies for a new transistor occultation system, sighting in our deer rifles, changing feeds and frequency on the 140-ft., and constructing the new system for the 300-ft. has kept every-

one pretty busy. Claude did find time though to attend the National Electronics Conference in Chicago in between trips to the Playboy Club.

My Most Embarrassing Moment Dept.

Don Logan takes the prize this month for the most embarrassing experience. Don's moment of truth came when he entered a local turkey shoot. The big sharpshooter calmly walked up to the firing line with his super long-barreled shotgun, anticipating an easy win with his superior weapon. Don's smile quickly vanished when he found that 12 gauge shells fell half-way down his barrel. For the first time Don realized that he has a 10 gauge shotgun.

If you have has an embarrassing experience recently, just send it to the Observer so we can laugh with you; or if you don't want to send it in, just tell some one.

Interferometer Group

The L.O. phase lock system has locked the attention of the group. At the moment the system is under going many tests in the lab. It will be installed in the interferometer system in December. It seems that the system will work if the bad amplifiers, wrong wirings, the ground loop problems, etc. can be overcome.

Ever wonder about what the results

Interferometer Group (Cont'd)

would be if the output cable and the shield of an amplifier were connected backward, Well just come to the lab, and we will tell you all about it. We have first-hand experience in that field.

David Sun was naturalized as an American citizen on November 17. He came from Taiwan (Formosa) and has been in the U.S. for six year. At the present time his home is in Cary, North Carolina. Congratulations.

Bernie Pasternak and James Ware attended the Hewlett-Packard seminar in Richmond, Virginia along with 150 other technicians who were enrolled in the seminar. Bernie took lessons on microwave measurement and applications of spectrum analyzer, and James has two days of classes on the Sanborn recorder. They also saw some familiar faces there, John Parker, and Gay Wooddell. Apart from what they learned in the classroom, they also gained some knowledge on drinks too, the mixture of bourbon, scotch, and gin, tastes terrible.

Millimeter Lab

Christmas comes early this year for the Millimeter lab. The 9 MM narrow-band receiver is being packed and tested in the lab. The system is scheduled to go on the air on December 27th, two days too late.

The 3 MM receiver survived the tests at Advanced Technology Inc. Advanced Technology Inc. also designed and built two mixers (one each) for the 3 MM and the 3 MM broad-band receivers. It appears that home-made mixer junctions are still

running (a close?) second to the commercial jobs.

Fiscal Division

Roy Drake joined the Fiscal Division as an accountant on November 11th. Roy is a native West Virginian (Charleston) and like most mountaineers, he is an avid hunter and fisherman. He also dabbles in archery and other popular sports.

Roy come to the NRAO from Ernst & Ernst, a CPA firm in Columbus, Ohio.

Roy's wife is Phyllis and they have one child, Jeffrey.

Welcome Roy!!!

Basketball News by Jim Ryder

The NRAORA Basketball Games got underway November 18th at the Cass Grade School Gym. Game time was 7:00 P.M. with Harold Crist's yellow men squaring off with Cliff Barkley's reds. From the first jump ball to start the battle, ball game, I mean, the yellow men decided this was their game, although they trailed 2-0 in the first two minutes. Then things started to happen. The yellow team, with Tojoc "hotshot" Ratliff (19 points) and Tom "dead eye" Carpenter (12) firing mostly from without the foul lane, and John "speedball" Cassell (15) and Maxie "stretch" Gum (8) along with Jim "heavy" Ryder (7) under the basket for rebounds, together with Clarc "glasseye" Stevens

Basketball (Cont'd)

son and Jim "hotstuff" Coe (2) bringing up the rear, went to its first victory. With everyone getting to play and all of them getting tired, aside from a few scratches and bruises, sore muscles and a little unsavory language, it was a fine time.

Now don't think the red team gave us easily. Wendell "dribbler" Monk (21 points) and Benny "hightest" White (15) along with Dave "badknee" Williams (6) and Ken "testtube" Anderson (4), Bill "pops" Shank (6) and Basil "elbows" Gum (no points but good in defense) gave the Yellows a good fight. White and Anderson gave the yellow team a hard time on the rebounding, while Monk with his fine dribbling left an impression that the next encounter could be rough. Williams and Shanks played a good defensive game while Gumm substituted for them to play all positions with zest. We feel sure Brown Wessell, if he had been able to face the yellow team, might have made a difference in the score. But he had a trip to Staunton. We hope that he will be there next time.

The second bout got underway about 8:45 with the blue versus the green team. The green won this round with four more to play. Ronnie "slim" Monk dropped points along with some fine rebounding the shots made by John "one hand" Ralston (14) and Del "terror" Cassell (13). Mike "speedy" Davis (4) and Roy "shortstuff" Drake (8) together with Tom "biggin" or (4) and Odell "woody" Johnson (2) pulled some defensive work out and under the basket, mostly hips and elbows. It

seemed as though Monk could not miss the basket and Ralston and Cassell didn't want to. When the green got started they never trailed in score, but they had to slug and bite and scratch and give black eyes to stay ahead.

While the green seemed to make things rough for the blue, they were not sitting around. Lennie "slugger" Howell was the high point man with 31 points, trailed by Jim "black eye" Simmons (17). Not bad for a man who can't see over Monks or Taylors shoulders. Bob "red" Vance contributed 10 hard earned points while Walt "chrome dome" Deboard dumped 7 and Jerry "sure foot" Shears lobbed in 4 points to hold the green to a head of not more than ten points through the game and keeping the score tied most of the time. It was a fast and "smooth" game. Gene Crist, blue coach and Glen Grandon, green coach, are looking forward to another game where things could be different. The final scores of the evening are:

Yellow 66 - Red 52
Green 79 - Blue 69

For Sale:

Rabbits; for pets or fryers
Breeding does and hutches
Call 456-4360 or ext. 207

The Observatory Wives Tea

The ladies tea will be held on
December 10, 1965, 1:30 - 3:30 P.M.
in the Residence Hall Lounge.

A MIDWINTER NIGHTMARE

This hitherto unknown one act play was discovered, together with a map of the New York subway system (signed: Leif Ericsson) in the Yale library.

Persons Represented:

Thesis, Duke of Monteverde		Citizens, First Class
Charlotte, the Virgin Queen		Citizens, Second Class
Philorgius	} Astrologers to the Duke	Villeins, Serfs, etc.
Hedonius		
Dissipatus		
Imbibandus		

Scene 1, the Horoscope room in the ducal palace.

Enter Thesis, Charlotte, and Philorgius, the latter bearing a clepsydra.

Thesis: Now, fair Charlotte, our nuptial hour draws on apace, two happy weeks till we are yet together in thy verdant land.

Charlotte: Two weeks are but the briefest moment, sire when stretched upon the endless sands of time. Yet some unease doth cloud my happy brow for I feel anger in your loyal folk.

Thesis: Anger? Werefore? Speed hence, Philorgius, stir up Montverde's youth wakefulness from last night's revels and do thou nimbly find why they be troubled.

(Exit Philorgius, dropping clepsydra. Enter Hedonius, Dissipatus and Imbibandus).

Hedonius: Happy be Thesis, our renowned Duke!

Thesis: Thanks, good Hedonius, what's the news with thee, for I read trouble in thy greybeard face.

Hedonius: Full of vexation come I, with complaint my lord, against the villeins of thy fief. Their gardens o'overflow with goodly produce yet they eat it all and sell me none.

Dissipatus: Likewise my lord, there is no place within one hundred leagues, where almanacs or other weighty tomes are sold.

Imbibandus: Yea, my sir Duke, and in my turn, I cannot find the magic silken robes which keep cold winds at bay, while i' the night at astrolabe I sit.

robe

A MIDWINTER NIGHTMARE (Cont'd)

All Three: And all our time, O Duke, we spend conversing with each other. As thy court revels, we need carouse together and do provincial grow. We travel not to learned meetings. O your Grace, our work doth suffer and our brains decay.

Charlotte: O help thy faithful servants, my sweet sire, lest my full heart to break!

Thesis: I have bethought myself of this at length. 'Tis true of late your forecasts have been false. My dukedom hath thus suffered till in my mind, I hear the King of Muscovy's malicious laugh. Hark ye therefore: Charlotte the Virgin Queen I now propose to wed, the ducal seat, astrologers and all to her fair kingdom move. There shall ye have your hearts' desire and more astrologers shall come to use our huge and costly astrolabes.

All, On Their Knees: My lord, we thank thee humbly for this boon.

(Exeunt)

(Enter Philorgius, bearing new clepsydra)

Philorgius: My lord, beware! The natives are restless* this night. A damsel by the name of Elinor, they say, hath spread abroad the purport of thy plans. Of countless drunken orgies hereabouts she tells they would gain know where these are to be found.

(Exit Philorgius, dropping clepsydra)

Thesis: Come, my betrothed. Thus let us venture forth and meet them, come what may. And hope that noe have cause to rue this day.

(Exeunt omnes)

Scene II A courtyard in the palace.

(Enter two citizens)

First Citizen: Out of my way, thou saucy knave! Wherefore art not at work today?

Ed. Note: Clearly the stress falls on the second syllable

A MIDWINTER NIGHTMARE (Cont'd)

Second Citizen: Curses on thee and on thy kind, I say. Art blind? Of second class I am and here must stay while thou in sunny climes dost sport and play. While thy cup runneth over with good cheer, I drown my sorrows in a watery beer.

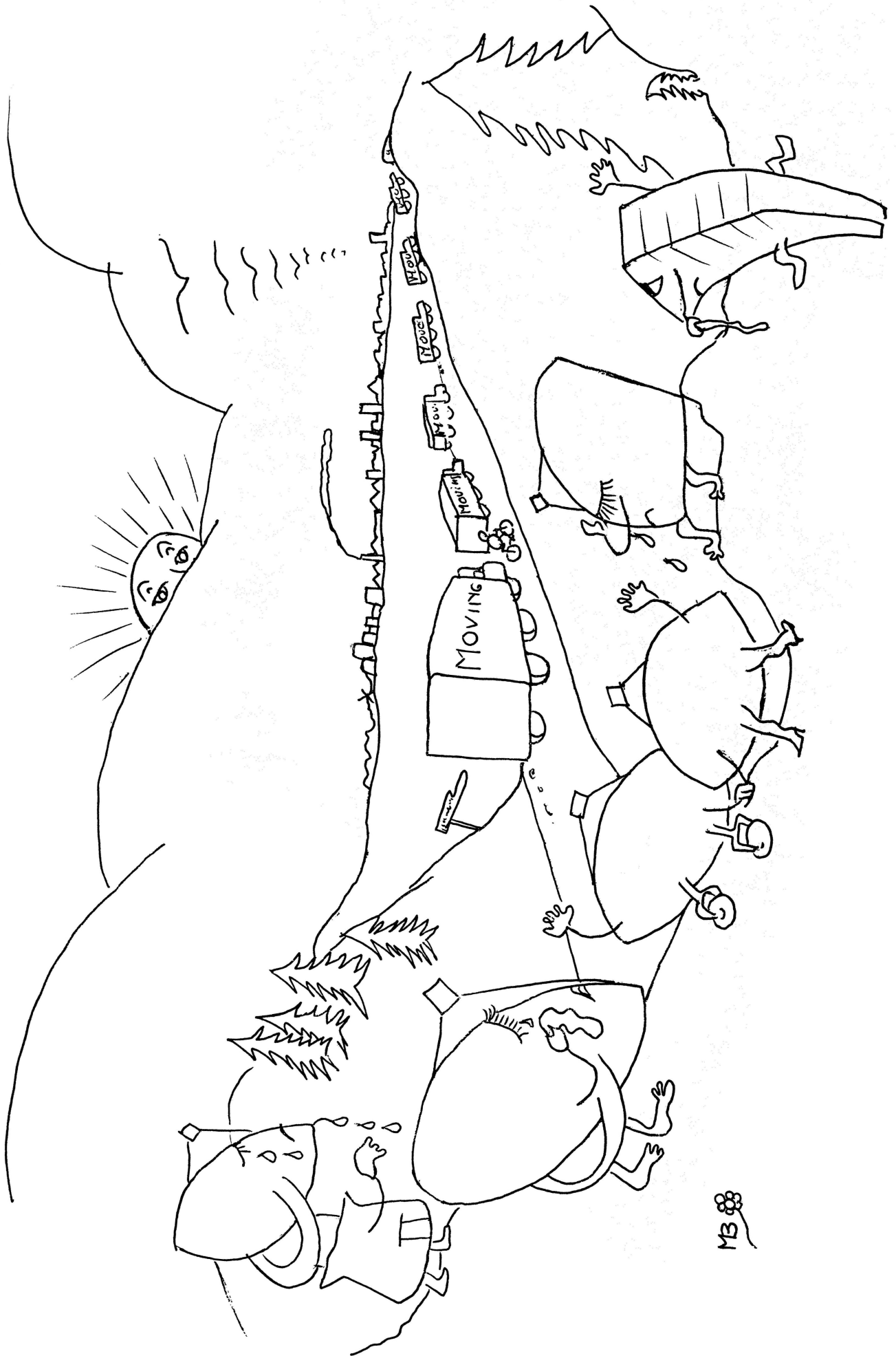
(Enter villeins)

First Villein: And what of us my sirs? Upon our land you-all build astrolabes and with the tithes we pay the duke and king, a jousting place you make, where you may play, and keep us-all, rough mannered villeins, far away.

(Alarums and exursions. Enter the Duke and Queen, and their train)

Thesis: O loyal and beloved subjects, do I hear the murmurs of revolt assail my ducal ear? 'Tis true my orders harsh and unjust my seem, but, O my people, think on what they mean. Our soldiers fight in a far-distant land. How think ye I give orders to that gallant band? Why, my astrologers do labour night and day with zodiac and almanac the battle plans to lay. None excels none; work for might to increase and force the proud King of Muscovy down to his knees.

(Great flourish and shout. Duke and Queen board their train.
Citizens and villeins exeunt, embracing)



MB 88



Look fella, I don't care WHY you burned it; no draft card, no beer!

ALBAUGH